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Arizona Labor Market NEWSLETTER

Arizona Department of Economic Security

Vol. VIII No. 11
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Unemployment Rate

Seasonally Adjusted
September*

ARIZONA	4.2%
Maricopa Co.	3.2%
Pima Co.	3.7%
UNITED STATES	7.4%

Consumer Price Index

National-August
1967 - Base Year

Wage Earner/Clerical Worker -	310.3
% Chg. Yr. Ago	3.6
All Urban -	313.0
% Chg. Yr. Ago	4.2

Phoenix-3rd Qtr.
1977 - Base Year

All Urban -	183.1
% Chg. Yr. Ago	5.7

Producer Price Index

National-September*
1967 - Base Year

All Commodities-	309.5
% Chg. Yr. Ago	1.4
Finished Goods -	289.8
% Chg. Yr. Ago	1.6

* Preliminary

In and Out of Poverty

Who is living in poverty? How long have they been there? Why is it always so hard for the Smith family to get by while the Jones family is constantly moving up the financial ladder? The recent Panel Study on Income Dynamics, conducted by the University of Michigan's Institute for Social Research, has revealed some interesting answers to these questions.*

The Institute report indicates that Americans move in and out of poverty** with surprising frequency. For the years 1971 to 1978, the study analyzed the economic fortunes of some 5,000 representative American households. Of those families in the lowest income bracket during 1971, only slightly more than one-half were there in 1978. On the opposite end, only one-half of those families in the highest income-bracket during 1971 were there in 1978. This suggests that there is considerable movement up and down the economic scale, as well as into and out of poverty.

During the 10-year period 1969 through 1978, one out of every four Americans experienced at least one year of poverty, but only 2.6 percent were considered "persistently poor," living below the poverty level for eight or more consecutive years. The temporary poor, those who were in poverty for only one or two years, were found to be very similar in characteristics to the general population, except for the economic hardships. Economic hardship was most often found to be the result of movement out of the labor force, long distance residential moves, disability or a serious illness, unemployment or changes in union status.

The characteristics of the persistently poor differ radically from those of the general population. Four out of every 10 are disabled, 60 percent are black--compared to only 19 percent of the temporary poor--and two-thirds live in the South. One-third are elderly and of the remainder, 65 percent live within households headed by women. Almost 75 percent of these women are black and over one-half have children living at home.

According to the report, for those who are "persistently poor" the chances of moving into higher income brackets are, at best, marginal. Most of the persistently poor includes single women and their dependent children under the age of 18. Children not only increase household expenses, but also impose child-care responsibilities and other factors that severely constrain a mother's income-earning potential. For example, when a single woman with children loses her job, she generally seeks employment within a close proximity to the home. This attempt to keep a stable environment often results in only part-time employment or low-paying jobs. Opportunities for escaping poverty seem especially bleak for the elderly. Elderly persons living in poverty have little chance of escaping through the most common routes-- by acquiring employment with decent pay or by marrying someone who already has stable employment.

The 1980 Census has also revealed some interesting information concerning the demographic characteristics of the population living below the poverty level. Although the Census examines the population at one point in time (as opposed to the University of Michigan study which followed the economic fortunes of sample families over time), successive censuses can be used to analyze changes in the general composition of the poverty population.

From 1970 to 1980, the number of families in the U. S. living below the poverty level increased by 5.5 million and the poverty rate for families rose from 9.2 percent to 10.3 percent. In 1980 there were approximately 19.7 million white and 8.6 million black Americans living in poverty. The poverty rate for blacks was 32 percent, about three times the rate for whites (10 percent). In 1980, approximately 3.5 million Hispanics were living below the poverty level.

A large number of children also live in poverty. Approximately 11.8 million children under 18 years of age were living in households with incomes below the poverty level during 1980, constituting about 40 percent of all persons living below the poverty level.

Most of these children lived in one-parent households. About one-half were maintained by women with no husband present while only 11.8 percent were maintained by men with no wife present. The poverty rate for one-parent families was 32.7 percent in 1980 compared to 6.2 percent for married-couple families. It seems that married couples come to depend upon two incomes for their livelihood and if divorce or employment troubles arise, the chances for slipping into poverty can become great. Following divorce, the parent who retains the children is most often the poverty victim.

POVERTY IN ARIZONA

Comparisons between the 1970 and 1980 Census findings for Arizona's poverty population both enhance and conflict with conclusions reached by the Institute and trends observed on a national level.

The poverty rate in Arizona during 1970 was approximately 15 percent. In 1980 the rate dipped to 13 percent. Population growth and the actual number of people in poverty increased between 1970 and 1980 at about equal rates, although some groups fared better than others. While the pattern for single women with children followed national trends, the poverty rate for elderly Arizonans actually decreased.

Table 1 illustrates differences between Arizona's population and labor force composition over time. While the white and black populations increased at about an equal rate, total civilian labor force participation rates for blacks surpassed those of whites. The median family income of blacks also grew at a faster rate, although in current dollars it is well below the level maintained by whites.

Women also increased their labor force participation at a rate well above that for males. This was especially true for black women. However, the unemployment rates for black Arizonans increased more dramatically than for whites. As can be seen in the table, a higher proportion of black women are entering the labor force. This results in a higher unemployment rate for that group.

Single women with children entered poverty with greater frequency than any other group during the 10-year period (see Table 2). This can be partially explained by a higher labor force participation rate for women which was probably propelled by high divorce rates experienced during the 1970s. Poverty rates for black and white families followed relatively equal patterns over the 10-year period. However, poverty increased at a faster rate for white persons, especially those with children under 18 years of age, than for blacks (except for the group age 65 and over). Family-size reduction may be a factor in this trend.

The most surprising conclusion of the comparison between census findings was the performance of the elderly. The rate of poverty actually decreased for persons age 65 and over within Arizona during the 10-year period; however, the decrease was entirely among whites. The poverty rate for black elderly persons was still increasing, but at a very small rate (2 percent).

The poverty rate in Arizona actually decreased during the period of 1970 to 1980, although not equally across all groups. Because the labor force participation rate for women increased substantially during that period and many could not attain work, unemployment and poverty rates increased at a higher rate for this group. However, family size reduction seems to be a positive factor in slowing the poverty rate. Finally, the elderly seem to have fared well during the 10-year period. Although racial minority groups over age 65 increased their poverty rate slightly, the white elderly group has actually decreased its poverty rate.

Jeffrey D. Bowman and Guy R. Wilson

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* Results of University of Michigan Panel Study on Income Dynamics as reported by Greg J. Duncan, "Who Gets Ahead?", American Demographics, IV, 7 (July/August 1982), 38-41; and Beckley Townsend, "Poverty and Plenty," American Demographics, VI, 9 (September 1984), 8 and 10.

** U. S. Department of Commerce, Bureau of the Census, Current Population Reports, Series P-60, No. 133 (July 1982). Poverty level income for a urban family of four in 1980 was $8,438 for all states except Hawaii and Alaska.

Table 1: Selected Social and Economic Characteristics of Persons in Arizona by Race: 1970* and 1980**

	TOTAL			WHITE			BLACK		
	1970	1980	% Chg	1970	1980	% Chg	1970	1980	% Chg
Total Population	1,770,893	2,718,215	53%	1,613,335	2,260,288	40%	52,653	74,159	41%
Median family Income***	$ 9,185	19,017	107%	$ 9,482	19,947	110%	$5,716	13,724	140%
Civilian Labor Force	641,000	1,186,832	85%	603,009	1,022,589	70%	15,981	29,460	84%
Employed	614,055	1,113,270	81%	579,018	966,842	67%	15,045	26,149	74%
Unemployed	26,945	73,562	173%	23,991	55,747	132%	936	3,311	254%
Not in Labor Force	527,746	812,526	54%	478,849	691,157	44%	13,615	18,290	34%
Female Civilian Labor Force	239,891	495,378	107%	224,742	428,071	90%	7,141	13,509	89%
Employed	228,241	465,110	104%	214,056	404,951	89%	6,796	12,072	78%
Unemployed	11,650	30,268	160%	10,686	23,120	116%	345	1,432	315%
Not In Labor Force	376,336	542,821	44%	346,099	464,147	34%	8,547	10,349	21%

* U.S. Bureau of the Census, Selected Social and Economic Characteristics of Persons in Arizona by Race: 1970

** U.S. Bureau of the Census, Selected Social and Economic Characteristics of Persons in Arizona by Race: 1980

***Based on 1979 current U.S. dollars

Table 2: Characteristics of Families and Persons below the Poverty Level by Race in Arizona: 1969* and 1979**

	TOTAL			WHITE			BLACK		
	1969	1979	%Chg 69-79	1969	1979	%Chg 69-79	1969	1979	%Chg 70-80
Families	50,359	67,577	34%	37,650	42,100	12%	3,318	3,888	17%
persons per family	4.28	3.90	-.38	3.89	3.43	-.46	4.66	3.83	-.83
female householder	14,674	22,974	57%	10,634	13,476	27%	1,697	2,149	27%
with related children under 18 years of age	12,683	20,169	59%	9,019	11,793	31%	1,597	1,973	24%
Persons	266,498	351,365	32%	191,138	214,878	12%	17,735	18,950	7%
with related children under 18 years of age	80,557	127,889	59%	48,862	64,577	32%	6,930	8,051	16%
Age 65 and over	37,835	36,577	- 3%	32,552	28,094	-14%	1,810	1,855	2%

* U.S. Bureau of the Census, Characteristics of Families and Persons below the Poverty Level by Race in Arizona, 1970

**U.S. Bureau of the Census, Characteristics of Families and Persons below the Poverty Level by Race in Arizona, 1980

"Women, Welfare and Work": The Keynote Address

The following speech was delivered by Barbara Blum at the two-day conference "Women, Welfare and Work" held September 13-14, 1984. The conference was jointly sponsored by the Arizona Department of Economic Security and the Arizona Department of Education. Ms. Blum is the president of Manpower Demonstration Research Corp. in New York and president-elect of the Association of Public Welfare Administration.

"This conference focuses on the some 3 million American women, including over 26 thousand women in the state of Arizona, whose families live in whole or in part on public assistance. Their collective plight constitutes one of America's gravest social problems. First, there is the simple inadequacy of welfare as a means of family support. As if this were not difficulty enough, there are the special characteristics of many women on welfare--low levels of education and training, membership in minority groups, early childbearing--all of which hinder their ability to become self-sufficient. Finally, the explosive growth of female-headed families over the past decade, combined with the vulnerability of these families to poverty, singles out their employability needs as a topic deserving of special concern.

"While it would be foolish indeed to ignore the particular difficulties of welfare women, we do them a disservice by separating a discussion of their employability needs from a discussion of the needs of mainstream American women. So, I would like to step back for a few minutes from the question of welfare women and work to talk about the more general issue of women and work. It is my hope that this apparent detour may lead to a broader perspective.

"Historians tell us that the 20th century has been a period of almost inexorable growth in the participation of American women in the nation's paid workforce. Of course, women have always worked. For most women in the early 20th century, running a household and raising a family, especially without many of the labor-saving devices at our disposal today, was an arduous seven-day-a week responsibility. And even at that date, numbers of women worked outside the home as well.

"However, a wide range of employment opportunities in World War II increased participation of women in the labor market. Interestingly, as Alice Kessler-Harris tells us in her study Out to Work, so did the Depression, with women supporting their families when their husbands became unemployed; and so did the growth of the consumer society in the 1950s, pursuading increasing numbers of women throughout that decade and the 60s and 70s to get a job in order to supplement family income.

"In going to work, women with children and spouses typically have not viewed themselves as abandoning family obligations. Instead, they pointed to the financial support and comfort their paychecks brought as another way of meeting those family obligations. For many women in the 1970s, however, what had been an economic necessity also took on a life of its own. Increasingly, women have felt as free to seek fulfillment in work, as they have, and continue to do, in family life.

"By 1984, the forces of change begun early in the 20th century have become an established social fact. We read in the New York Times this summer that 63 percent of American women over the age of 16 now work; by 1995 three-quarters are expected to do so. In 1960, 30 percent of mothers with children under 18 were working; by 1980 that figure had climbed to well over half, 55 percent.

"Given such trends, the welfare system is in many respects anachronistic. To a considerable degree, the Aid to Families with Dependant Children program still bears a legacy from the very different era in which it began. Originally the AFDC program was designed as a complement to the Old Age and Survivors Insurance

Title of the Social Security Act of 1935. It was envisioned largely as a means of supporting orphans and children of widows whose husbands had not contributed to the Social Security program. Since it was widely assumed that the place of a mother was at home, little thought was initially given to the question of whether the government should try to help the mothers of these children to find jobs. Moreover, the expectation was that as Social Security coverage grew, the need for AFDC support would wither away.

"But as so often happens, social trends refused to conform to predictions. The AFDC program did not diminish; it grew. As time elapsed, the typical recipient was no longer a widow. More often than not, she was one of the growing number of divorced and unmarried mothers who have so dramatically changed the face of the American family over the past decades.

"It became clear that however important had been the original intent of AFDC--sustaining families in need--the government now had additional problems to solve. The presence of single mothers on welfare could not be dismissed as a passing phenomenom, nor was it accurate to view welfare women as a collection of individuals characterized by chance misfortune. Many were on the welfare rolls as a result of strong social forces which are not easily amenable to change. Thus, it was no simple task-- but obviously a critical one--for society to move beyond the relatively circumscribed goal of family assistance to the more challenging effort of helping these women find a better way of supporting themselves. The Federal Work Incentive program represented one attempt to respond to that set of employability needs, and more recently--and perhaps more forcefully--state-run work/welfare programs are beginning to address the problem.

"Nevertheless, there is the lingering programmatic assumption that the single mother should be at home supported by a welfare check until her youngest child is at least six years old. Such thinking strains the current social fabric. When over 40 million women work outside the home, it is inconsistent and classist for welfare women not to have the same choices as middle class and high income women.

"Furthermore, these attitudes contradict what we already know about welfare women: while an important minority of these women are long-term recipients, most do work, alternating spells of welfare with spells of employment. There is strong evidence that welfare women, even those who have been on assistance for a long time, share the desire for work with other American women. To cite just one example, the National Supported Work Demonstration, an innovative employment initiative studied by the Manpower Demonstration Research Corporation, gave entry-level, low-wage jobs for 12 to 18 months to long-term welfare recipients, women who had been receiving public asistance for an average of eight years. After they finished that program, many of these women found and kept jobs, though frequently the financial gain of their jobs over welfare tended to be slight.

"Elsewhere in our society, too, there is a growing movement to bring the experience of welfare women more in line with that of other American women. This accounts for at least a part of the impetus behind the current development of state-run mandatory job search, work experience and training programs.

"However, we must look for more than changes in the policies and practices of the welfare system for AFDC women to find their place in the labor market. These women face many barriers, barriers we cannot fully address until as a nation we begin to deal with some of the critical employability problems confronting all American women.

"By no means has the steady growth of paid female work meant that women generally have been able to realize their full potential for productive employment in today's society. For this to happen, I believe all women today have three needs: more access to good work opportunities; greater equity in compensation for their work; and better and more available child care services, coupled with opportunities for more flexible work schedules. Let us consider today each of these needs, as they relate to American women in general, and to welfare women in particular.

"Women have made significant inroads into the work world in recent years. Between 1970 and 1981, the number of women in management positions almost doubled, and women's enrollment in graduate and professional schools has increased dramatically. Still, 80 percent of America's female workers crowd into fields that are overwhelmingly dominated by women--clerical work, nursing, teaching, food service, library work, retail sales and domestic work--with the result that, even though the number of women employed has grown, the degree of job segregation between men and women is almost as severe today as it was 70 years ago. Almost invariably, female-dominated jobs tend to be at the lower end of the pay scale, and it is this factor as much as any other that explains why the average American woman today earns only 61 cents for every dollar a man earns.

"Righting this situation seems to require change on at least two fronts. In part, as a society we must re-examine the assumptions that permit us to compensate female-dominated work so poorly. Why, for example, as writers of one study on comparable worth asked, should jobs that require complex mothering and homemaking responsibilities--jobs in education, health and welfare work--be considered 'low skilled'? Or why in a state that found two occupations--registered nurse and vocational education teacher--to deserve exactly the same rating on a job evaluation study, do the registered nurses earn an average of $1,723 a month, while the vocational education teachers get $537 a month more?

"But at the same time that we are asking such questions, we must encourage women, particularly young women, to to broaden their horizons beyond traditional 'women's work.' One study tells us that when fourth grade girls are asked what careers they want to pursue, they typically answer 'teacher, nurse, secretary and mother.' Another recent study found that when school guidance counselors were given case studies of students with similar IQs, they generally counseled white males towards higher-status occupations than females. Still other research shows that girls and boys tend to perform equally well in elementary school but by high school, boys have outdistanced girls, especially in math and science, and what is more, girls are likely to believe that boys will do better than they will. All of these attitudes about performance are dysfunctional for a generation of young women who can expect to spend a large part of their adult lives in the work world and who therefore ought to be seeking access to as many opportunities as men.

"Once we are clear about the labor market patterns that consign so many American women to inequality, the economic conditions that conspire against welfare women are thrown into sharper relief. While most welfare women do manage to work at some times, their jobs tend to be low-paying dead-end positions in the female-dominated sector of the labor market. Jobs like these, even if far from ideal, can be useful as an income supplement to a two-parent family. But, they seldom suffice for the single-headed household. One recent study on economic development sums up the current dilemma this way: with the emergence of so many double-income families, the labor market has evolved in ways that are more compatible with the needs and circumstances of two-parent than of single-headed households. The result is the troubling condition we have all come to know as the feminization of poverty. Only a few statistics are needed to sketch its contours:

- The median income of female-headed families with dependent children is only a third of that for husband-wife house-households.
- While in a husband-wife family, the chance of being poor is only one in 19, a child in a female-headed household has a one in three chance of living in poverty.

"Faced with a job that often fails to make ends meet, let alone provide a decent standard of living, it is not surprising that the former welfare recipient is apt to be able to develop only a weak attachment to the labor market. At times of stress--family illness, disruptions in child care arrangements, problems with housing--she is likely to cycle back onto public assistance.

"Like other American women, those on welfare generally have not been encouraged to set their sights high enough, to seek out more nontraditional work options that would keep them employed in careers with better futures. Like other American women, they need broadened opportunities for education and training. And in their case, society incurs a special cost, because the government must step in to re-establish welfare support when these women fail to develop stable work patterns.

"There is also the significant minority of welfare women who find it almost impossible to get access to any work at all. Traditionally, job developers serving AFDC clients have had to confront the reluctance of employers to hire welfare mothers, especially those with little or no work experience. One of the objectives of current workfare and work experience programs--which was also an objective of the Support Work Program--is to give such women a documented job history to show to employers.

"Besides access and pay equity, a third need shared by large numbers of American women is to have their children well cared for while they work. At present, the response to that need is most inadequate. The Children's Defense Fund estimates that more than one in six American children below the age of 13 may be without needed child care. What is more, the need for day care spans all age groups of children. With 41 percent of mothers of children under a year in the labor force, it is clear that there must be many more options for infant care. Women should also have the security of knowing that their school-aged children do not have to wait in empty homes until their parents return from their jobs. Studies indicate that the supply of before-and-after school day care is growing but not nearly as much as the demand. And although the problem has not been discussed widely, I believe that teenage children of working parents require more after-school supervision than many now get. Leaving young people too much alone during these

years may have serious consequences for patterns of premature sexual activity. It may also contribute to the upsurge of precocious behavior leading to the 'disappearance of childhood' that some observers have written about.

"Closely linked to the issue of child care is a need for more flexible work schedules. Working mothers must juggle multiple responsibilities. If they need to, mothers should be able to drop off a child at a day care center before they are due at work. They should be able to make reasonable adjustments in their work hours to meet family obligations, such as doctor's appointments and school programs, and they should be able to choose part-time work without relinquishing claims to benefits. (These kinds of opportunities should of course also be extended to working fathers with child care responsibilities.) Changes like these are already taking place at a fairly rapid rate, but we must address them not on a case-by-case basis but as part of a systematic process of planning and implementation.

"Like problems of access and pay equity, needs for child care and more reasonable work schedules pose the greatest hardship to the low-income mother. Citing studies that show that one of every five or six women is unemployed because she cannot make satisfactory child care arrangements, the Children's Defense Fund concludes that lack of affordable day care is a major factor keeping women in poverty. One issue we must be sensitive to is that the federal income tax credit for child care has proved more useful to middle class than to disadvantaged women. According to the Congressional Budget Office, only about 7 percent of the 4.6 million families using the credit in 1983 had incomes below $10,000. When a family pays a low income tax, the credit is of little use. Of far more consequence to poor working mothers is the fact that in 1983, 32 states are providing day care to fewer children than in 1981. The total combined federal and state funding for Title XX child care dropped by 14 percent between 1981 and 1983. Even in Arizona, a state which has been among the more progressive in seeking out child care opportunities for those in need, availability of affordable day care for low-income women remains an issue.

"Furthermore, for those poor women who do have day care, some experts warn of a growing gap between the quality of child care available to them and to more affluent families. In testimony to Congress, Sheila Kamerman reported that a dual system of child care seems to be emerging. Middle-class parents increasingly turn to pre-school education for their children, while poorer families resort to more informal day care, which may not offer children the same opportunities for early enrichment and growth.

"Difficulties with work schedules, which are burdensome to any working mother, can create an insurmountable barrier for a low-income worker. It can be discouraging enough for a woman to make a series of unwieldy arrangements to have her child picked up at a day care center because she is not free to arrange her work schedule to do so herself. But for the welfare woman, especially if she lives in a rural area, rigid work hours, coupled with limited access to transportation. can entirely close her out of an already narrow job market.

"In several important areas, then, the employability needs of welfare women both arise out of and accentuate the difficulties facing large numbers of American women. Despite the many problems demanding better solution, I find it encouraging that today there is at least a growing recognition of two facts--first, that poverty in America is to a great extent a problem for women and second, that some of the most fundamental issues of feminism are issues of work and opportunity. Discussions based on such understandings should help us place the special employability problems of welfare women more directly in the mainstream--to remind us that while their problems are especially critical, they are not unique."

September 1984 (in thousands)

	ARIZONA				
				-- Amt Change --	
	Sep.* 1984	Aug. 1984	Sep. 1983	Aug. to Sep.	1983 to 1984
TOTAL CIVILIAN LABOR FORCE	1421.5	1379.2	1374.2	+42.3	+47.3
Total Unemployment	57.0	62.3	108.4	-5.3	-51.4
Rate	4.0	4.5	7.9	---	---
Rate (Sea. Adj.)**	4.2	4.3	8.2	---	---
Total Employment	1364.5	1316.9	1265.8	+47.6	+98.7

THE ABOVE LABOR FORCE STATISTICS SHOULD NO

NONAGRICULTURAL WAGE AND SALARY EMPLOYMENT BY PLACE OF WORK

	Sep.* 1984	Aug. 1984	Sep. 1983	Aug. to Sep.	1983 to 1984
TOTAL WAGE AND SALARY	1151.2	1115.8	1079.0	+35.4	+72.2
Manufacturing	173.3	171.2	160.1	+2.1	+13.2
Durable Goods	136.5	135.3	124.4	+1.2	+12.1
Stone, Clay and Glass	6.9	6.8	6.7	+0.1	+0.2
Primary and Fabricated Metals	16.2	16.2	14.8	+0.0	+1.4
Primary Metals	6.9	6.9	6.7	+0.0	+0.2
Fabricated Metals	9.3	9.3	8.1	+0.0	+1.2
Machinery	68.1	67.4	62.5	+0.7	+5.6
Other Durable Goods	45.3	44.9	40.4	+0.4	+4.9
Aircraft and Missiles	20.5	20.3	18.2	+0.2	+2.3
Lumber and Wood Products (Except Furniture)	6.9	6.8	7.0	+0.1	-0.1
All Other Durable Goods	17.9	17.8	15.2	+0.1	+2.7
Nondurable Goods	36.8	35.9	35.7	+0.9	+1.1
Food and Kindred Products	8.2	7.9	8.4	+0.3	-0.2
Apparel	5.1	5.0	5.3	+0.1	-0.2
Printing and Publishing	13.2	12.9	12.4	+0.3	+0.8
All Other Nondurable Goods	10.3	10.1	9.6	+0.2	+0.7
Mining and Quarrying	13.1	13.4	14.2	-0.3	-1.1
Copper Mining	10.1	10.4	11.3	-0.3	-1.2
Other Mining and Quarrying	3.0	3.0	2.9	+0.0	+0.1
Construction	92.3	91.6	81.2	+0.7	+11.1
Trans., Communications, and Public Utilities	59.5	59.4	56.7	+0.1	+2.8
Transportation	25.6	25.3	23.8	+0.3	+1.8
Communications and Public Utilities	33.9	34.1	32.9	-0.2	+1.0
Trade	273.3	269.1	257.0	+4.2	+16.3
Wholesale Trade	55.4	54.6	51.3	+0.8	+4.1
Retail Trade	217.9	214.5	205.7	+3.4	+12.2
General Merchandise and Apparel	37.4	36.8	35.0	+0.6	+2.4
Food Stores	34.8	34.2	33.3	+0.6	+1.5
Automotive and Service Stations	26.1	26.1	24.5	+0.0	+1.6
Eating and Drinking Places	75.8	74.4	71.8	+1.4	+4.0
Other Retail Trade	43.8	43.0	41.1	+0.8	+2.7
Finance, Insurance, and Real Estate	69.4	69.6	66.1	-0.2	+3.3
Services and Miscellaneous	259.6	256.2	237.0	+3.4	+22.6
Hotels and Other Lodging Places	26.5	25.7	23.2	+0.8	+3.3
Business Services	56.8	55.1	47.4	+1.7	+9.4
Health Services	66.9	67.0	64.3	-0.1	+2.6
Other Services	109.4	108.4	102.1	+1.0	+7.3
Government	210.7	185.3	206.7	+25.4	+4.0
Federal	40.2	40.4	38.8	-0.2	+1.4
State and Local	170.5	144.9	167.9	+25.6	+2.6
School	101.6	74.2	101.7	+27.4	-0.1

* Preliminary

** Normal seasonal variations have been eliminated to reflect underlying economic trends.

NOTE--Prepared in cooperation with the U.S. Department of Labor, Bureau of Labor Statistics.

September 1984 (in thousands)

MARICOPA COUNTY					PIMA COUNTY				
			-- Amt Change --					-- Amt Change --	
Sep.* 1984	Aug. 1984	Sep. 1983	Aug. to Sep.	1983 to 1984	Sep.* 1984	Aug. 1984	Sep. 1983	Aug. to Sep.	1983 to 1984
903.5	875.1	853.7	+28.4	+49.8	260.5	254.6	255.3	+5.9	+5.2
27.5	29.4	52.7	-1.9	-25.2	9.4	10.2	19.4	-0.8	-10.0
3.0	3.4	6.2	---	---	3.6	4.0	7.6	---	---
3.2	3.3	6.4	---	---	3.7	3.9	7.9	---	---
876.0	845.7	801.0	+30.3	+75.0	251.1	244.4	235.9	+6.7	+15.2

BE USED FOR ECONOMIC ASSISTANCE PROGRAMS.

NONAGRICULTURAL WAGE AND SALARY EMPLOYMENT BY PLACE OF WORK

Sep.* 1984	Aug. 1984	Sep. 1983	Aug. to Sep.	1983 to 1984	Sep.* 1984	Aug. 1984	Sep. 1983	Aug. to Sep.	1983 to 1984
752.7	729.7	696.3	+23.0	+56.4	209.6	204.5	199.5	+5.1	+10.1
125.1	123.5	114.8	+1.6	+10.3	29.4	29.4	27.0	+0.0	+2.4
100.0	98.7	90.4	+1.3	+9.6	24.5	24.5	22.2	+0.0	+2.3
4.2	4.1	4.1	+0.1	+0.1					
10.4	10.3	9.5	+0.1	+0.9					
54.7	54.0	49.7	+0.7	+5.0					
30.7	30.3	27.1	+0.4	+3.6					
25.1	24.8	24.4	+0.3	+0.7	4.9	4.9	4.8	+0.0	+0.1
5.1	5.1	5.3	+0.0	-0.2					
2.9	2.9	3.1	+0.0	-0.2					
9.6	9.5	9.1	+0.1	+0.5					
7.5	7.3	6.9	+0.2	+0.6					
0.7	0.7	0.6	+0.0	+0.1	3.1	3.3	3.5	-0.2	-0.4
63.7	63.2	56.5	+0.5	+7.2	19.1	19.0	16.0	+0.1	+3.1
38.6	38.6	36.5	+0.0	+2.1	9.2	9.1	8.7	+0.1	+0.5
17.0	16.8	15.9	+0.2	+1.1	4.2	4.1	3.7	+0.1	+0.5
21.6	21.8	20.6	-0.2	+1.0	5.0	5.0	5.0	+0.0	+0.0
186.4	183.6	173.6	+2.8	+12.8	44.1	43.5	42.9	+0.6	+1.2
44.4	44.0	41.0	+0.4	+3.4	6.5	6.4	6.3	+0.1	+0.2
142.0	139.6	132.6	+2.4	+9.4	37.6	37.1	36.6	+0.5	+1.0
24.2	23.7	22.3	+0.5	+1.9	6.6	6.4	6.4	+0.2	+0.2
22.3	21.9	21.3	+0.4	+1.0	5.5	5.5	5.5	+0.0	+0.0
16.9	17.0	15.6	-0.1	+1.3	4.1	4.2	4.0	-0.1	+0.1
47.9	46.9	45.1	+1.0	+2.8	13.8	13.6	13.4	+0.2	+0.4
30.7	30.1	28.3	+0.6	+2.4	7.6	7.4	7.3	+0.2	+0.3
54.3	54.5	51.5	-0.2	+2.8	9.8	9.8	9.5	+0.0	+0.3
176.5	173.3	158.6	+3.2	+17.9	48.9	48.4	45.7	+0.5	+3.2
14.8	13.8	12.8	+1.0	+2.0	4.2	4.1	3.7	+0.1	+0.5
47.2	45.8	39.2	+1.4	+8.0	8.0	7.7	6.7	+0.3	+1.3
45.4	45.5	43.2	-0.1	+2.2	13.7	13.7	13.6	+0.0	+0.1
69.1	68.2	63.4	+0.9	+5.7	23.0	22.9	21.7	+0.1	+1.3
107.4	92.3	104.2	+15.1	+3.2	46.0	42.0	46.2	+4.0	-0.2

-- Prepared by Labor Market Information, Research and Analysis (CPS-MOD, 1/84)

NONMETROPOLITAN COUNTIES LABOR FORCE AND EMPLOYMENT

September 1984 (Preliminary)

	Apache	Cochise	Coconino	Gila	Graham	Greenlee	La Paz
TOTAL CIVILIAN LABOR FORCE*.	13,975	28,700	36,475	13,450	7,350	3,850	4,800
Total Unemployment	1,225	1,600	1,850	1,175	550	225	525
Rate	8.8%	5.6%	5.1%	8.7%	7.5%	5.8%	10.9%
Rate (Seas. Adj.)**. . . .	9.4%	6.1%	6.0%	9.4%	7.6%	5.9%	-INA-
Total Employment	12,750	27,100	34,625	12,275	6,800	3,625	4,275

THE ABOVE LABOR FORCE STATISTICS SHOULD NOT BE USED
FOR ECONOMIC ASSISTANCE PROGRAMS

	Apache	Cochise	Coconino	Gila	Graham	Greenlee	La Paz
TOTAL WAGE AND SALARY. . . .	13,225	21,900	32,250	9,775	4,325	3,055	2,500
Manufacturing.	725	2,050	2,650	1,375	125	325	100
Mining and Quarrying	50	350	50	1,625	100	1,650	0
Construction	1,550	900	1,175	500	125	50	50
Trans., Comm., & Pub. Util..	1,650	1,350	2,200	250	150	50	50
Trade.	1,075	4,425	7,400	1,725	1,175	325	800
Fin., Insur., & Real Estate.	150	625	600	225	125	25	100
Services and Miscellaneous .	3,250	2,600	7,775	1,550	725	100	700
Government	4,775	9,600	10,400	2,525	1,800	525	700

	Mohave	Navajo	Pinal	Santa Cruz	Yavapai	Yuma
TOTAL CIVILIAN LABOR FORCE*.	22,025	23,950	29,525	8,475	29,850	35,025
Total Unemployment	1,425	1,675	2,725	1,250	1,650	4,225
Rate	6.5%	7.0%	9.2%	14.7%	5.5%	12.1%
Rate (Seas. Adj.)**. . . .	6.8%	7.7%	9.3%	13.1%	6.2%	-INA-
Total Employment	20,600	22,275	26,800	7,225	28,200	30,800

THE ABOVE LABOR FORCE STATISTICS SHOULD NOT BE USED
FOR ECONOMIC ASSISTANCE PROGRAMS

	Mohave	Navajo	Pinal	Santa Cruz	Yavapai	Yuma
TOTAL WAGE AND SALARY. . . .	15,700	17,275	22,550	7,175	16,825	22,300
Manufacturing.	2,300	1,825	2,700	900	2,075	1,675
Mining and Quarrying	250	1,100	3,850	25	275	50
Construction	975	650	600	225	1,050	1,550
Trans., Comm., & Pub. Util..	975	1,625	1,000	550	900	1,000
Trade.	4,475	3,075	3,750	2,825	4,625	7,075
Fin., Insur., & Real Estate.	725	275	725	225	700	750
Services and Miscellaneous .	3,000	4,325	2,150	1,075	3,075	3,900
Government	3,000	4,400	7,775	1,350	4,125	6,300

*Adjusted to the Current Population Survey (CPS) to reflect place of residence.
**Seasonal adjustment not applicable for economic assistance programs.

NOTE--Series for Yuma and La Paz counties start January 1983. Data are not comparable to any past series.

Prepared in conjunction with the U.S. Department of Labor, Bureau of Labor Statistics.

ARIZONA LABOR FORCE AND EMPLOYMENT FOR ECONOMIC ASSISTANCE PROGRAMS

July 1984 (Final)

County	Civilian Labor Force	Employment	Unemployment	Rate
Statewide	1,378,141	1,309,596	68,545	5.0%
Apache	14,126	11,662	2,464	17.4
Cochise	27,800	25,921	1,879	6.8
Coconino	35,598	32,418	3,180	8.9
Gila	13,505	12,200	1,305	9.7
Graham	6,937	6,371	566	8.2
Greenlee	3,777	3,524	253	6.7
La Paz	4,501	4,040	461	10.2
Maricopa	873,135	841,906	31,229	3.6
Mohave	21,090	19,567	1,523	7.2
Navajo	24,513	21,155	3,358	13.7
Pima	251,473	241,500	9,973	4.0
Pinal	28,446	25,591	2,855	10.0
Santa Cruz	8,343	7,028	1,315	15.8
Yavapai	29,612	27,631	1,981	6.7
Yuma	35,285	29,082	6,203	17.6

These figures are the only official BLS labor statistics to be used for revenue sharing purposes. They are not designed to be used as economic indicators. Note: Series for Yuma and La Paz counties start January 1983. Data are not comparable to any past series.

ESTIMATED HOURS AND EARNINGS OF PRODUCTION WORKERS IN SELECTED INDUSTRIES IN ARIZONA

September 1984

INDUSTRY	AVERAGE WEEKLY EARNINGS			AVERAGE WEEKLY HOURS			AVG. HOURLY EARNINGS		
	SEP.* 1984	AUG. 1984	SEP. 1983	SEP.* 1984	AUG. 1984	SEP. 1983	SEP.* 1984	AUG. 1984	SEP. 1983
FOR THE STATE OF ARIZONA*									
Manufacturing	366.71	369.05	368.83	40.7	40.6	40.8	9.01	9.09	9.04
Aircraft & Missiles	INA	INA	495.03	INA	INA	43.5	INA	INA	11.38
Food & Kindred Products	307.71	310.84	338.91	39.4	39.1	39.5	7.81	7.95	8.58
Primary Metals	483.44	467.64	461.77	39.4	39.1	37.3	12.27	11.96	12.38
Machinery	325.58	323.36	353.38	40.8	39.1	40.9	7.98	8.27	8.64
Copper Mining	603.03	548.26	513.32	42.1	39.7	38.8	14.30	13.81	13.23
Construction	430.12	421.11	454.21	37.5	35.9	37.2	11.47	11.73	12.21
Utilities	562.40	562.40	516.40	45.1	45.1	43.8	12.47	12.47	11.79
Retail Trade**	236.64	235.96	217.03	34.8	34.7	33.7	6.80	6.80	6.44
Wholesale Trade	353.28	356.24	347.11	38.4	38.1	39.4	9.20	9.35	8.81

* Preliminary

** Excludes eating and drinking places.

NOTE--These estimates are based on a sample of full and part-time production and related employees whose payroll and hours are reported for the pay period which includes the 12th of the month. Prepared in cooperation with the U.S. Department of Labor, Bureau of Labor Statistics.

--Prepared by Labor Market Information, Research and Analysis (1972 SIC, 1/84)

THE ARIZONA LABOR FORCE IN SEPTEMBER 1984

Job creation was strong again in September as 47,600 Arizona residents found work. Although much of this was due to usual seasonal hiring as schools opened for another semester and winter tourism businesses began to expand, substantial growth was noted in most sectors. Except for the mining and the finance, insurance and real estate industries, every industry showed positive job growth with manufacturing, construction ~~and~~ services particularly strong.

Positive growth of this magnitude almost always causes the unemployment rate to fall, and September was no exception. Only two counties, Graham and Pinal, saw an increase in their unemployment rates. But the precipitous declines of 4/10s and 5/10s of a percentage point that were recorded a few months ago are probably a thing of the past. Many people are moving into the state and entering the labor force as evidenced the fact that although 47,600 people found work in September, the ranks of the unemployed declined by only 5,300.

Manufacturing's strength was in the traditional areas of electronics and aerospace, with most of that growth occuring in the Maricopa County economy. Defense expenditures and the general growth of consumer electronics continue to be a substantial base for this industry. A total of 1,000 people in the last month and 10,600 people in the last year have secured employment here. And equally important, particularly to the state's rural areas, has been the arrival of agricultural processing jobs associated with the chili season and cotton ginning. Businesses in Cochise and Pinal counties account for much of this work.

Construction was again strong in nearly every area of the state. In the state's northern counties, firms are rushing to get work done before cold winter weather arrives, while building continues at a fairly brisk clip in the rest of the state. Although higher mortgage rates have slowed growth in the industry, much work is still being done. The final industry of noteworthy employment growth was services. Although nearly every sub-industry expanded, the greatest growth continues to be in business services which includes temporary-help agencies as well as building maintenance and cleaning services. General commercial growth in the state has helped to fuel employment opportunities. If the current rate of growth continues, the services industry will soon surpass trade as the state's largest employer.

Economic conditions were again quite good in September, with job growth being recorded in both the metropolitan and nonmetropolitan areas of the state. But although the number of people unemployed now is by at its lowest level since October 1979 when 56,800 people were looking for work, all industries are not enjoying the expansion equally. In September, employment in copper mining fell to 10,100, its lowest level since March 1968 when the industry was at the end of a bitter nine-month strike. Excluding the impact of strikes, this is the lowest employment level ever recorded since employment-by-industry statistics began to be collected in the late 1950s. And the low price at which copper is selling does not portend improvement in the future.

Except for continued weakness in copper, Arizona's future looks bright. Manufacturing's growth appears solid for the foreseeable future and the combination of holiday buying and winter tourism should create many jobs in the coming months. Our current unemployment rate is at record lows both statewide and in Maricopa County. Compared to where we were a year ago and where the national economy is now, our economic future remains quite bright.

SMSA REPLACED BY
MSA, PMSA AND CMSA

The familiar SMSA, or Standard Metropolitan Statistical Area, was officially replaced by a new set of terms on June 30, 1983. If you continue more than one year later to use the term SMSA and are puzzled by the acronymns MSA, PMSA and CMSA, you are probably not alone. What are these new classifications and why were they developed?

BACKGROUND - The general concept of a metropolitan area is one of a large population nucleus, together with adjacent communities which have a high degree of economic and social integration with that nucleus. Standard definitions of metropolitan statistical areas were first issued in 1949 by the then Bureau of the Budget (predecessor of the U.S. Office of Management and Budget), under the designation "Standard Metropolitan Areas"; the term was changed to SMSA in 1959. From 1977 to 1981, the SMSAs were the responsibility of the Office of Federal Statistical Policy and Standards, Department of Commerce.

METROPOLITAN STATISTICAL AREA (MSA) - Like its predecessor SMSA, the MSA is the basic metropolitan area classification. An MSA is a free-standing metropolitan area, surrounded by nonmetropolitan counties and not closely associated with other metropolitan areas. Each MSA must include at least: (1)one city with 50,000 or more inhabitants, or (2) a Census Bureau-defined urbanized area of at least 50,000 inhabitants and a total MSA population of at least 100,000 (75,000 in New England). 257 MSAs are recognized. They are defined in terms of entire counties except in New England, where they are defined in terms of cities and towns.

MSAs are further classified into four levels based on total population size: Level A -- 1,000,000 inhabitants or more; Level B -- 250,000 to 1,000,000 inhabitants; Level C -- 100,000 to 250,000 inhabitants; and Level D -- fewer than 100,000 inhabitants. Phoenix is a "Level A" MSA and Tucson, a "Level B" MSA.

PRIMARY METROPOLITAN STATISTICAL AREA (PMSA) AND CONSOLIDATED METROPOLITAN STATISTICAL AREA (CMSA) - Most of the largest metro areas having 1,000,000 or more people and meeting certain other criteria are classified as Consolidated Metropolitan Statistical Areas. The components of CMSAs are Primary Metropolitan Statistical Areas and CMSAs must consist of two or more PMSAs. A PMSA is a metropolitan area that is closely related to another, such as Seattle and Tacoma, Washington; these two PMSAs constitute one CMSA.

Although this two-tier approach to areas over 1,000,000 seems confusing, it allows the classification of once smaller metropolitan areas that have been absorbed by an expanding neighbor as well as of suburban areas which have grown to have many of the characteristics of separate metropolitan areas while at the same time remaining part of a single metropolitan complex.

At present, there are 23 CMSAs, consisting of 78 PMSAs, in addition to the 257 MSAs. Overall, the total metro areas number 335 if you count MSAs and PMSAs; 280, if you count MSAs and CMSAs.

FASTEST GROWING METROPOLITAN AREAS - The 25 fastest growing metropolitan areas between 1970 and 1980 are listed in the accompanying table. Note that they are located in Sunbelt or Western states: Florida leads the list with nine metropolitan areas among the 25 fastest growing; Texas has four followed by three for Washington and two each for Arizona, California and Nevada. Colorado, Idaho and Utah have one each.

WHY THE CHANGES? - The new system of classifying metropolitan areas reflects America's metropolitan complexity. Under the old system, all metropolitan areas were classed as SMSAs whether they had a population of 1,000,000 or only 50,000. The new system is designed to permit separate analysis of metropolitan statistics, important not only to federal, state and local planners but to planners in private industry as well.

Questions regarding the new criteria should be addressed to the Chief, Population Division, Bureau of the Census, Washington, D.C. 20233.

JoAnn H. Wilson

SOURCES: "Appendix II: Metropolitan Area Concepts and Components," Statistical Abstract of the United States, 1984, U.S. Bureau of the Census (894-904); "Goodbye SMSA, Hello MSA, PMSA (A, B, C, D)," The Number News, February 1982 (1,6-9); and Richard L. Forstall and Maria Elena Gonzalez, "Twenty Questions: What You Should Know About the New Metropolitan Areas," American Demographics, April 1984.

25 FASTEST GROWING METROPOLITAN AREAS
1970-1980

Metropolitan Area	Percent Change 1970-1980
Fort Myers, Florida	95.1%
Fort Pierce, Florida	91.7
Ocala, Florida	77.4
Las Vegas, Nevada	69.5
Sarasota, Florida	68.0
Fort Collins - Loveland, Colorado	65.9
West Palm Beach - Boca Raton - Delray Beach, Florida	65.3
Fort Lauderdale - Hollywood - Pompano Beach, Florida PMSA	64.2
Olympia, Washington	61.6
Bryan - College Station, Texas	61.4
Reno, Nevada	59.9
Provo - Orem, Utah	58.3
Brazoria, Texas PMSA	56.6
McAllen - Edinburg - Mission, Texas	56.0
PHOENIX, ARIZONA	55.4
Richland - Kennewick - Pasco, Washington	54.8
Orlando, Florida	54.4
Boise City, Idaho	54.2
Bradenton, Florida	52.9
Daytona Beach, Florida	52.7
Santa Cruz, California PMSA	52.0
TUCSON, ARIZONA	51.1
Vancouver, Washington PMSA	49.6
Brownsville - Harlingen, Texas	49.4
Redding, California	49.0

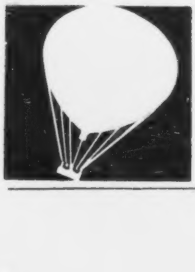
"10 HOTTEST TRANSFERRABLE SKILLS"

We often hear the advice that people who want to find a new job or career should examine their "transferrable skills"--that is, those skills gained in one occupation that may be readily used in another, possibly unrelated, occupation. According to Jim Shanahan, Manager of Employment and Equal Opportunity at Hughes' Helicopters, Inc., the "10 Hottest Transferrable Skills" are the following:

1. Budget Management.
2. Supervision.
3. Public relations.
4. Coping with deadline pressure.
5. Negotiating and arbitrating.
6. Speaking and communicating.
7. Writing.
8. Organizing, managing, taking charge of an event.
9. Interviewing.
10. Teaching and instructing.

Even if you're not considering a job or career change, you may want to keep this list in mind since you can expect to have to change jobs completely three times during your working lifetime. Developing these skills now may help ease the transition.

For additional information, request the LMI publication, Finding a New Job with Skills You Already Have by writing DES, Research Administration, at 733A, P.O. Box 6123, Phoenix, AZ 85005.



NEW DEVELOPMENTS

Construction - Construction has begun on a $12 million industrial park near Interstate 10 at Ahwatukee. Foothills Tech Plaza will consist of 132,000-square-foot and 40,000-square-foot buildings on 12 acres. The buildings are designed to fit the utility and space requirements of a large high-tech company. The project developer is considering a similar venture in Tucson.

A contract to construct a $7.6 million combat aircraft ordinance loading area at the Marine Corps Air Station in Yuma has been awarded to Maya Construction Co. of Tucson. The project will require one year to complete and could involve up to 150 local workers during construction.

The Tempe City Council has approved a proposal for a $35 million hotel development on the city's Double Butte property, south of Broadway between Interstate 10 and 48th Street. Opening of the resort hotel is planned for fall 1986. It eventually could have up to 540 rooms.

AT&T Communications has announced plans to build an $18 million data-processing center adjacent to the company's existing center on University Drive in Mesa. The expansion, scheduled for completion in summer 1985, will have about 150 employees.

Construction is under way on a 53,000-square-foot shopping center in Tempe. The $550,000 multiuse center, to be called Reflections Tempe, will provide space for retail-specialty shops, restaurants and offices. It is expected to employ about 100 people.

The first phase of a $25 million, high-technology business park in Scottsdale is under construction. The project will have 11 buildings containing a total of about 220,000 square feet. The first phase, consisting of three buildings including one occupied by Motorola, will be ready for occupancy early next year.

Manufacturing - A $19 million plant will be built for the Sperry Aerospace and Marine Group at the Arrowhead Ranch development in Glendale. The 225,000 square-foot facility is being constructed for the group's recently formed space systems division. Company spokesmen expect Sperry's Valley workforce to increase from the current 5,500 to between 8,000 and 8,500 by 1988. The payroll and local corporate purchases at that time should total between $400 million and $500 million annually. Governor Babbitt, present at the company announcement, said the Sperry facility is the "most important kind of test center for the Valley and the state" because it "involves not just assembly, but it is a high-tech engineer-oriented research firm."

Subiacolor Inc. and Photoworks, both of Phoenix, merged effective November 1. The new firm plans to build a 10,000-square-foot photo-processing lab scheduled to open in December. The number of employees will increase to 40 from the 35 now working for Subiacolor and Photoworks.

Mining - The Cyprus-Bagdad Copper Co. has contacted about 350 laid-off miners regarding a possible reopening of the Cyprus-Bagdad copper mine. About 625 miners were laid off in January and February due to the declining price of copper. Cyprus-Bagdad is a non-union operation, so there will be no labor negotiations.

Duval Corp. has announced plans to implement a 15 percent wage cut for all hourly and salaried employees at its Sierrita copper mine near Tucson. An overtime program, mandatory for most workers, will allow workers to maintain their income while increasing production at the mine. Employment at the mine is about 1,000, down from its peak of 2,500 three years ago.

Layoffs - Gates Learjet Corp. will lay off about 500 employees in Tucson--more than a third of its Tucson work force--and 500 in Wichita, Kansas because of a halt in some of its commercial aircraft production. According to a company spokesman, the temporary suspension of production of Learjet 30 and 50 series aircraft will continue indefinitely until inventories are reduced. Also, plans to relocate additional aircraft-assembly work from Wichita to Tucson, announced in July, will be deferred.

AT&T Consumer Products has announced plans to trim operations at its Phoenix Service Center as part of an AT&T Technologies Inc. Group cost-reduction plan. The consolidation involves about 700 jobs at four service locations across the country but it is unknown how the Phoenix center's 200 employees will be affected. According to a company spokesman, decisions regarding layoffs or employee transfers have not yet been made. The changes are another step in the August announcements by AT&T Technologies to eliminate 11,000 jobs, improve the use of space, and reduce locations that originally served telephone companies owned by AT&T prior to divestiture.

Store Closing - Sears Roebuck & Co., closed its doors in Douglas, affecting about 12 employees. The peso devaluation was cited as the reason for the closure.

Education - Maricopa County voters approved a $75 mission bond program to improve and expand the Valley's community colleges. Plans include three new community college centers located in Paradise Valley, Chandler/Gilbert and Litchfield Park, and the purchase of land in northeast Mesa and far northwest Maricopa County for potential development after the year 2000.

Technical equipment with an original value of nearly $1 million is being donated by IBM to Arizona State University and the University of Arizona. The equipment will be used for the fabrication of semiconductor circuitry in engineering laboratories at the two schools.

The Bureau of Labor Statistics reports that college graduates continue to have clear labor market advantages over other workers, including a markedly lower unemployment rate, a higher rate of labor force participation and a larger share of managerial and professional jobs. In March 1984, the unemployment rate for college graduates 25 to 64 years old was 2.7 percent, compared with 7.2 percent for high school graduates and 11.6 percent for workers with an eighth grade education or less.

Job recruitment at Arizona State University is 20 percent ahead of the level set last fall as defined by the number of recruiting days scheduled at the campus by companies. According to ASU's Career Services office, there is a demand for graduates in the technical fields, especially from the electronics industry in the Valley.

Portable Practical Education of Tucson plans to open a training center in San Luis for disadvantaged farm workers to provide them with job skills in business and high tech. Similar centers are located in Casa Grande, Ganado and Tucson.

Best Employers - Several companies with Arizona operations are listed among The 100 Best Companies to Work for in America, a recently published book written by Robert Levering, Milton Moskovitz and Michael Katz. The authors considered pay, benefits, job security, the chance to move up and "ambience." Qualifying for the top 10 list was Trammell Crow Co., an Arizona developer of office and industrial space. Joining Crow as one of the 10 best companies to work for in American is IBM Corp., a major Tucson employer. Other local firms cited are W. L. Gore & Associates, manufacturers of high-tech aerospace and camping equipment, with four plants in Flagstaff and one under construction in Phoenix; and Intel Corp., the California-based firm with about 2,500 Valley employees.

JOB GENERATION/BUSINESS BIRTHS AND DEATHS STUDY

The Research Administration is beginning a study on job generation/business births and deaths in Arizona. We would like to know what areas you feel are most important to investigate. Please indicate which of the following are of most interest to you by ranking each area from "1" to "8" with "1" being most important.

Return this form to DES, Research Administration - 733A, P. O. Box 6123, Phoenix, AZ 85005.

1.____Size of business by employment (e.g. small vs. large).

2.____Businesses relocating to Arizona from another state vs. expansion of existing firms.

3.____Job generation by industry (e.g. manufacturing vs. services).

4.____Business expansions vs. new businesses.

5.____Length of life of businesses.

6.____Job generation in rural or urban areas.

7.____Changes in business ownership.

8.____Other, please specify________________

____

ARIZONA UNEMPLOYMENT INSURANCE ACTIVITIES - AUGUST 1984

	AUGUST 1984	JULY 1984	AUGUST 1983	% Change From 1 Year Ago
Arizona Claimants Served*	29,649	28,160	43,043	-31.1%
Arizona Average Weeks Unemployed**	9.2	8.8	10.2	-9.8%
Arizona Benefits Paid*	$10,065,085	$8,659,073	$14,442,909	-30.3%
Arizona Trust Fund Balance	$231,074,129	$222,160,497	$177,707,565	+30.0%

*All Programs **UI Only

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Arizona Labor Market NEWSLETTER

Arizona Department of Economic Security

Vol. VII No. 12
December 1984

Unemployment Rate

Seasonally Adjusted
October*

ARIZONA	4.3%
Maricopa Co.	3.3%
Pima Co.	4.0%
UNITED STATES	7.4%

Consumer Price Index

National-September
1967 - Base Year

Wage Earner/Clerical Worker -	312.1
% Chg. Yr. Ago	3.8
All Urban -	314.5
% Chg. Yr. Ago	4.2

Phoenix-3rd Qtr.
1977 - Base Year

All Urban -	183.1
% Chg. Yr. Ago	5.7

Producer Price Index

National-October*
1967 - Base Year

All Commodities-	309.4
% Chg. Yr. Ago	1.1
Finished Goods -	291.6
% Chg. Yr. Ago	1.4

* Preliminary

Arizona Occupational Outlook 1984-1989

The following speech was delivered to the fall conference of the Arizona Adult & Community Education Associations. The speaker, JoAnn Wilson, is an analyst with the Research Administration of the Arizona Department of Economic Security and editor of the Arizona Labor Market Newsletter. The conference was held September 27-28, 1984.

* * * * * * * * * * *

"This conference has been called to discuss the kinds of workers the Arizona economy will need in the coming years and the vital role adult and community education can play to prepare Arizonans for the jobs of the future. I welcome this opportunity to bring you one perspective on Arizona's future job market.

"Most of the information I will discuss today is derived from the Occupational Employment Statistics (OES) program, a federal/state cooperative program managed by the Research Administration of the Arizona Department of Economic Security. Briefly, the OES program projects future (five-year) occupational employment, by industry, for Arizona and its counties. The projections are produced through a methodology that includes an industry survey to establish staffing patterns (conducted on a three-year survey cycle), and an econometric model with national and state data to forecast growth in employment for each industry. Future occupational employment is determined by applying projected industry growth rates to current staffing patterns. I mention the methodology because I want to emphasize that the information I bring today on Arizona's future job market should be viewed as estimates based upon a host of assumptions about where the growth in number and proportion of jobs is likely.

"With this caveat in mind, I offer the following lists:

- 26 Occupations Will Account for About Half of All New Jobs Generated in Arizona, 1984-1989 (Table 1);
- The 25 Fastest Growing Occupations in Arizona, 1984-1989 (Table 2); and
- The 25 Slowest Growing Occupations in Arizona, 1984-1989 (Table 3).

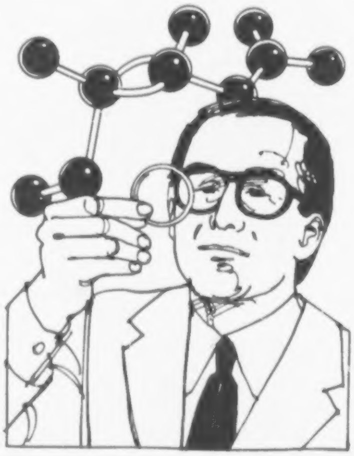
"Let's consider first the 26 occupations which will account for about half of the 273,000 new jobs generated in Arizona in the next five years. You will notice that I have included broad categorical titles such as 'all other managers and officers.' I have seen similar lists utilizing national data that eliminate these broad categories. I decided to retain them because I believe to include them is less misleading than to eliminate them.

"Having said that, let's turn to the actual list. What do we observe? First, many of the occupations are 'cross-industry' -- managers, janitors, secretaries, clerks, guards and bookkeepers. Second, three of the jobs contributing to half of Arizona's job growth in the next five years are in 'high tech' -- electrical and electronic assemblers, electrical engineers, and electrical and electronic technicians. Two of these occupations (electrical and electronic assemblers and electrical engineers) are also on the list of fastest growing occupations. So the effect on the job market of high tech which we hear so much about, especially in Arizona, is, in fact, evident.

"On the other hand, 23 of the 26 occupations which will account for half of the new jobs in the next five years are not in high tech. They are, instead, very familiar occupations, occupations that are a part of today's work world. So while high tech is important in Arizona, it might be well to put it into some perspective. There is the the problem of definition, of course. A perennial question at meetings such as this is "What is high tech?" Economists at the Bureau of Labor Statistics have offered three different definitions of a high-tech industry:*

1. The proportion of technology-oriented workers is at least one and a half times the average for all industries. Given this broad definition, high tech accounted for 14.0 percent of total nonagricultural employment in Arizona in 1982, just slightly ahead of the U. S. average of 13.7 percent. Among the states, Arizona ranked 16th.

2. The ratio of research and development expenditures to net sales is at least twice the average for all (manufacturing) industries. Under this definition, 6.6 percent of total nonagricultural employment in Arizona in 1982 was in high-tech industries, well in excess of the U. S. average of 2.8 percent. Using this definition, Arizona ranked third among the states.



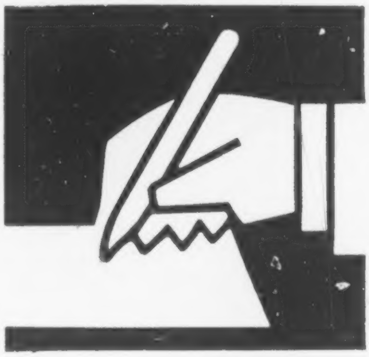
3. The proportion of technology-oriented workers relative to total employment in the (manufacturing) industry is equal to or

greater than the average for all manufacturing industries and the ratio of R & D expenditures to sales is close to or above the average for all industries. Utilizing this definition, 8.4 percent of Arizona's total nonagricultural employment in 1982 was in high tech; the U. S. average was 6.3 percent. Among the states, Arizona ranked eighth.

"There is no doubt that by any of these definitions, high tech is important in Arizona. Neither is there any doubt that this is a time of rapid change: from an industrial to an informational economy; from an insular, national economy to an interdependent, global one. No one can escape notice of these profound changes, or 'megatrends' as John Naisbitt calls them in his widely-read book.

"But one point I want to make today is that such changes will probably not alter the work world as much as many assume. When computers were first introduced for office data applications, for example, frequently predictions were made that large numbers of clerical workers would be displaced. What actually did happen was quite different. In 1960, clerical workers accounted for about 15 percent of total U. S. employment. By 1980, the figure was about 19 percent of the total and it is projected to grow still further.**

"So partly, it is a matter of being unable to predict the effects of the changes we all see taking hold. But also, it is the case that these changes are evolutionary rather than revolutionary. To quote the Report of the Panel on Secondary School Education for the Changing Workplace, 'Even in a period of apparently rapid and unpredictable dislocation, continuity remains a dominant feature of American working life. Changes in employment patterns and workplaces occur constantly, but generally by gradual evolution rather than drastic upheaval. This is not to deny that particular individuals, companies, or even whole industries will experience unpleasant shocks. It is merely to assert that the great majority of workers 10 to 15 years from now will earn their livings in a job market and a working environment more like today's than unlike it. . . . Today, with the age of the small computer upon us, hundreds of thousands of Americans still work -- and for the foreseeable future will continue to work -- as pencil-and-paper bookkeepers.'***



"Having put high tech 'in its place,' so to speak, let us turn again to this list of 26 occupations. What do we find? Number one on the list is all other managers and officers. This category is very broad, including all but sales managers, government inspectors and postmasters, managers in food service, store managers and auto parts and service managers. In the next five years in Arizona, this category will provide about 18,000 new jobs (see Figure 1). Following all other managers and officers are sales workers, sales clerks, laborers, janitors and porters and so on -- a familiar litany of titles. In terms of new jobs in Arizona in the next five years, there will be:

- 6 janitors per computer programmer,
- 7 secretaries per computer systems analyst,
- 8 waiters and waitresses per computer operator,
- 10 guards per aircraft structure assembler,
- 13 sales clerks per aero-astronautic engineer, and
- 125 hand bookkeepers per biochemistry technologist.

"While I am making the point that most job growth will come in occupations with which we are all familiar, I would agree that the new technologies will alter how people work in the future. Whether these changes will require greater -- or lesser -- skills will depend upon the occupation and upon effects which are as yet unpredictable. We can see some of the changing skill requirements in the occupations on this list:

- The skills of the typist overlap those of the word processor and are more different than they are higher or lower.
- Similarly, a stock clerk who once recorded inventory on paper forms may now keyboard the same information into the employer's computer or enter it by passing a special sensor over the bar codes printed on the goods -- different skills rather than higher or lower.

"Other occupations may require decidedly higher skills as new technologies generate new industries (e.g., robotics and biotechnology). But these will never make our list of occupations accounting for the greatest number of new jobs generated and may not even make the list of fastest growing occupations, to which I'd like to turn next.

Fastest Growing Occupations - "Before discussing the 25 fastest growing occupations in Arizona, let me begin again with several caveats. First, I should mention that there is nothing magical about the number 25 -- I could just as easily have made it the 15 or 50 fastest growing. Notice, too, that this list includes only occupations with 1984 employment of 200 or more. (I might add, parenthetically, that I later went through all the available data and found that doing so did not add any high tech, 'exotic' occupations with very low present employment levels.)

"This list of fastest growing occupations was based on state-level estimates. County data might well yield different results. For example, coil winders, the number one occupation in terms of projected growth, is actually declining in Maricopa County in the primary metals industry. The occupation 'coil winders' demonstrates another important caveat: fastest growing was determined by the percentage increase in new jobs and many occupations on this list start from a very low base. Coil winders is just such an occupation, estimated to grow by fewer than 100 new positions in the next five years (see Figure 2). Note, too, that the number of new jobs projected for all the 25 fastest growing occupations is nearly identical to the number expected to be added in just one category already discussed -- all other managers and officers. As a proportion of all new jobs to be generated in Arizona by 1989, the 25 fastest growing account for only 6.9 percent of total growth.

"All these caveats aside, what can be said about the fastest growing occupations in Arizona? First, most are in manufacturing. Hence, there will be fluctuations depending upon factors such as defense contracts; a similar list for 1985-1990 might well contain some different occupations. (On the other hand, there will be much less fluctuation among the 26 occupations on the previously discussed list since so many of of the occupations are cross-industry.)

"Many of the fastest growing occupations are in high-tech manufacturing like coil winders, encapsulators, coil finishers, electronic wirers, electrical and electronic assemblers. These occupations appear on this list because of our optimistic forecasts for fabricated metal products; machinery (excluding electrical); and electrical and electronic machinery, equipment and supplies. I should mention too, that the two fastest growing occupations which account for the most new jobs in absolute numbers are high-tech jobs: electrical and electronic assemblers and electrical engineers.

"There are, perhaps, a surprising number of operatives here -- drill-press operators, grinding-machine operators, lathe-turning-machine operators. Projections for these occupations reflect the fact that manufacturing in Arizona, while declining in its percentage share of total nonagricultural wage and salary employment, has declined far less here that it has elsewhere as, for example, where steel and automobiles predominate. (While durable manufacturing's share of wage and salary employment in Arizona declined 1.5 percent between 1971 and 1983, it declined 18.7 percent in the U. S. as a whole.)

Slowest Growing Occupations - "Let us turn finally to the 25 slowest growing occupations in Arizona. Many of the same caveats about the fastest growing occupations apply here -- there is nothing magical about the number 25; only occupations with 1984 employment of 200 or more are included and so on. Another caveat also needs to be added here which is that there are no actual declines in employment in the currently available OES data. For this reason, I recommend that you utilize the information on Arizona's growing and declining industries, by county, which is contained in the new LMI publication, Annual Planning Information, FY 1986 (API).****

"When you examine the list of slowest growing occupations, you'll notice several things. To begin, many of the occupations are in government -- foresters, postal service clerks, air-traffic controllers and so on. Government is simply not an industry in which we anticipate much growth in the next five years. This is also the case for the textile/garment industry and, as a result, you'll see fusing machine operators and sewing machine operators on the list of slowest growing. Finally, the effect of automation on telecommunications occupations is apparent with directory assistance operators, trouble locators, frame wipers and central office repairers among the slowest growing occupations.

Conclusion - "After preparing these lists for today's presentation, I had second thoughts about distributing them -- second thoughts for the reasons which I outlined to you earlier. Please don't add or drop a a training program simply because a particular occupation is, or is not, on a given list. On the other hand, this can be very powerful information if used properly. So do use the information. But remember that it is state-level, not county-level; publications with county-level data are available should you wish to create your own lists.***** Use these lists also in conjunction with other resources such as the information on growing and declining industries contained in the API. Check, too, other sources of information on the Arizona economy, including the Arizona Labor Market Newsletter. Continue to form and meet with your industry advisory committees. And, finally, utilize your own good judgment as you design programs to train Arizona's future workforce."

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*Richard W. Riche, Daniel E. Hecker and John U. Burgan, "High Technology Today and Tomorrow: A Small Slice of the Employment Pie," Monthly Labor Review (November 1983), 50-58; and Ronald Kutscher, Discussant, "Technological Change and Economic Implications," Conference on Labor Market Information, Phoenix, Arizona, June 5-7, 1984.

**Richard W. Riche, "Impact of New Electronic Technology," Monthly Labor Review (March 1982), 37-39.

***High Schools and the Changing Workplace: The Employers' View (Washington, D.C., 1984), pp. 4,6.

****A copy may be obtained by writing Labor Market Information Publications, 733A, P.O. Box 6123, Phoenix, Arizona 85005.

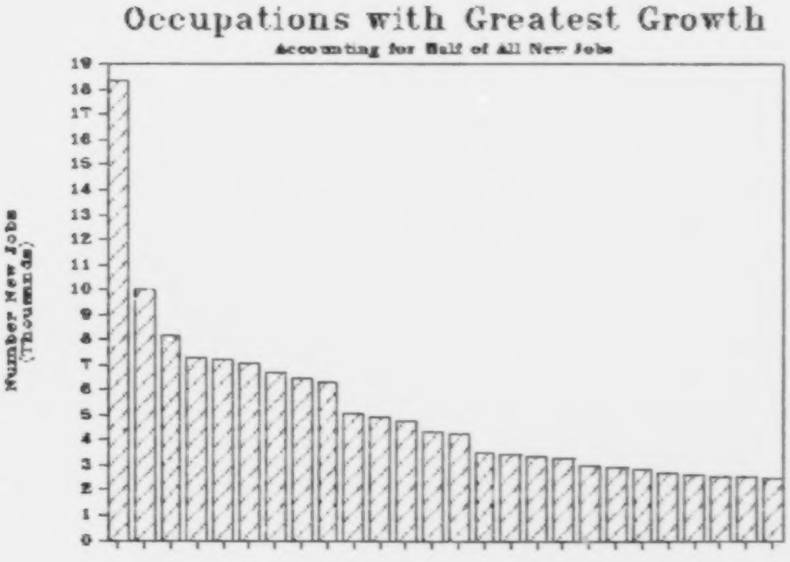
*****Request the publication Arizona Occupational Employment Forecasts, specifying the county of interest.

Table 1
26 OCCUPATIONS WILL ACCOUNT FOR ABOUT HALF OF ALL NEW JOBS GENERATED IN ARIZONA
1984-1989

1. All Other Managers & Officers
2. All Other Sales Workers
3. Sales Clerks (Exclude Cashiers)
4. All Other Laborers & Unskilled Workers
5. Janitors, Porters & Cleaners
6. Secretaries
7. Electrical & Electronic Assemblers
8. General Clerks, Office
9. Waiters or Waitresses
10. Food Preparation & Service Workers, Fast Foods
11. All Other Office Clerical Workers
12. All Other Food Service Workers
13. Cashiers
14. Nurses, Professional
15. Truck Drivers
16. Managers, Store
17. All Other Semiskilled Workers
18. Supervisors, Nonworking
19. Elementary School Teachers
20. Electrical Engineers
21. All Other Professional Workers
22. Stock Clerks, Stockroom, Warehouse or Storage Yard
23. Accounting Clerks
24. Guards & Doorkeepers
25. Electrical & Electronic Technicians
26. Bookkeepers, Hand

SOURCE: Arizona Department of Economic Security, Research Administration, OES Unit, Arizona Occupational Employment Forecasts, June 1984.

Figure 1



NOTE: Occupations in bar graph are in the same sequence, left to right, as they appear in Table 1.

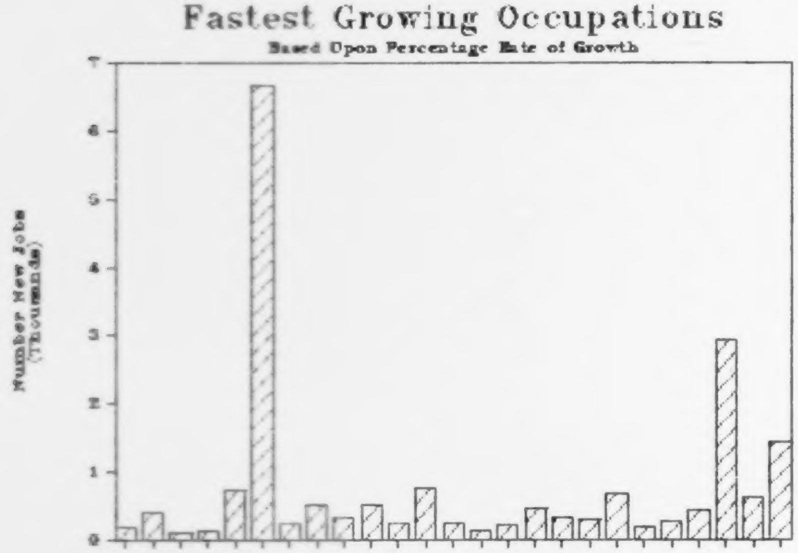
Table 2
THE 25 FASTEST GROWING OCCUPATIONS IN ARIZONA
1984-1989

1. Coil Winders
2. Encapsulators
3. Coil Finishers
4. Wirers, Electronic
5. Electrical Mechanical Equipment Assemblers
6. Electrical & Electronic Assemblers
7. Drill Press/Boring Machine Operators
8. Machine Tool Operators, Combination
9. Toolmakers & Diemakers
10. Survey Workers
11. Aircraft, Structure Assemblers
12. Industrial Engineers
13. Machine Tool Operators, Numeric Control
14. Developers, Projection Printers
15. Electroplaters
16. Mechanical Engineering Technicians
17. Exterminators
18. Machine Assemblers
19. Testers
20. Milling/Planing Machine Operators
21. Grinding and/or Abrading Machine Operators, Metal
22. Lathe Turning Machine Operators
23. Electrical Engineers
24. Aero-Astronautical Engineers
25. Inspectors

SOURCE: Arizona Department of Economic Security, Research Administration, OES Unit, Arizona Occupational Employment Forecasts, June 1984.

NOTE: Includes only occupations with 1984 employment of 200 or more.

Figure 2



NOTE: Occupations in bar graph are in the same sequence, left to right, as they appear in Table 2.

Table 3
THE 25 SLOWEST GROWING OCCUPATIONS IN ARIZONA
1984-1989

1. Foresters
2. Forest Conservation Workers
3. Postal Service Clerks
4. Air Traffic Controllers
5. Police Detectives
6. Biological Scientists
7. Mail Carriers, Postal Service
8. Adult Education Teachers
9. Fusing Machine Operators
10. Directory Assistance Operators
11. Inspectors, Public Administration
12. Sewing Machine Operators, Regular Equipment, Garment
13. Trouble Locators, Test Desk
14. Construction Inspectors, Public Administration
15. Pump Station Operators, Waterworks
16. Real Estate Clerks
17. Furnace Installers & Repairers
18. School Monitors
19. Sewing Machine Operators, Special Equipment, Garment
20. Frame Wipers
21. Broadcast Technicians
22. Tax Examiners & Collectors
23. Pipe Layers
24. Graduate Assistants
25. Central Office Repairers

SOURCE: Arizona Department of Economic Security, Research Administration, OES Unit, Arizona Occupational Employment Forecasts, June 1984.

NOTE: Includes only occupations with 1984 employment of 200 or more.

NEW LMI PUBLICATIONS

The latest edition of Annual Planning Information: A Planning Guide for Employment and Training is now available. Designed primarily for JTPA planning, this issue contains 1986 projections of population, labor force and poverty data for each of the JTPA Service Delivery Areas in Arizona. Also included are data on various JTPA target groups such as veterans, public assistance recipients and high school dropouts. Sections on growing and declining industries, occupational forecasts and average weekly wages can also be found in this publication.

Arizona's Economic Outlook is back after a two-year hiatus. This publication summarizes the DES employment and unemployment forecasts for the 1985 and 1986 fiscal years. Designed primarily for DES employment and training personnel, the 12-page pamphlet also includes an economic review and outlook for each of six geographic regions in the state. These regions are Maricopa County; Pima County; Apache, Coconino, Navajo and Yavapai counties; LaPaz, Mohave and Yuma counties; Gila and Pinal counties; and Cochise, Graham, Greenlee and Santa Cruz counties.

Single copies of these publications may be obtained by writing: Labor Market Information Publications - 733A, P.O. Box 6123, Phoenix, Arizona 85005. Multiple copies may be purchased for the cost of the printing.

THE ARIZONA LABOR FORCE IN OCTOBER 1984

Although the unemployment rate in Arizona and most of its counties rose in October, we continue to enjoy very strong economic growth. Not only is our unemployment rate considerably below the national average, but according to statistics for September only Nebraska, South Dakota, Vermont and New Hampshire have lower unemployment rates. In general, unemployment increased as seasonal workers entered the labor force looking for jobs in businesses that cater to winter tourists and holiday shoppers. Given our previously low levels of unemployment, it was expected that additional people would enter the labor force.

While the economy remains strong, growth has not been evenly spread across the industries or counties. In general, the metropolitan areas continue to do better than the rural areas. And traditionally strong areas such as services and trade are doing well while copper mining continues to suffer. But for the vast majority of Arizona's citizens, 1984 will be the best year for job opportunities since 1979.

After a number of rather quiet months during the summer, construction began to hire rapidly in October as 1,400 new jobs were created. Most of that work is apparently in residential construction where a recent decline in interest rates has helped to spur building. While the outlook for future declines is fuzzy, highway projects along with commercial and residential building should keep employment in construction strong.

Against the strong performance of construction, manufacturing employment did not fair as well. Recent weakness in semi-conductor sales coupled with difficulty in the aircraft sector could work to our disadvantage if they are not corrected soon. In general, the anemic growth of 200 workers in manufacturing gives us reason to watch this sector closely. The high technology components of manufacturing are too important to the state's health to be ignored at this point.

Meanwhile, department stores and resorts are beginning preparations for what should be a very strong winter season. It appears that the Christmas season should be particularly strong and that winter tourism should follow the same course. It has been many years since the economy has been this good, and many firms expect to reap the benefits in terms of greater purchases.

The rise in unemployment appears to be more a reaction to jobs being created than to jobs being lost. It will probably be the case that unemployment will slowly trend upward during the rest of this year and into next year. But job opportunities continue to be very good in most areas of the state. Although the final figures are not yet available, it appears that 1984 will rank right behind 1978 and 1979 in terms of strong employment growth.

ARIZONA UNEMPLOYMENT INSURANCE ACTIVITIES - SEPTEMBER 1984

	SEPTEMBER 1984	AUGUST 1984	SEPTEMBER 1983	% Change From 1 Year Ago
Arizona Claimants Served*	29,640	29,649	37,642	-29.2%
Arizona Average Weeks Unemployed**	INA	9.2	9.8	INA
Arizona Benefits Paid*	$7,837,731	$10,065,085	$12,068,404	-35.1%
Arizona Trust Fund Balance	$225,830,260	$231,074,129	$169,625,213	+33.1%

*All Programs **UI Only

	ARIZONA				
				Amt Change	
	Oct.* 1984	Sep. 1984	Oct. 1983	Sep. to Oct.	1983 to 1984
TOTAL CIVILIAN LABOR FORCE	1459.7	1421.8	1390.8	+37.9	+68.9
Total Unemployment	61.6	57.2	105.6	+4.4	-44.0
Rate	4.2	4.0	7.6	---	---
Rate (Sea. Adj.)**	4.3	4.2	7.7	---	---
Total Employment	1398.1	1364.6	1285.2	+33.5	+112.9

THE ABOVE LABOR FORCE STATISTICS SHOULD NO

NONAGRICULTURAL WAGE AND SALARY EMPLOYMENT BY PLACE OF WORK

	Oct.* 1984	Sep. 1984	Oct. 1983	Sep. to Oct.	1983 to 1984
TOTAL WAGE AND SALARY	1170.1	1151.4	1094.1	+18.7	+76.0
Manufacturing	173.7	173.5	160.4	+0.2	+13.3
Durable Goods	136.6	136.6	124.5	+0.0	+12.1
Stone, Clay and Glass	7.0	7.0	6.3	+0.0	+0.7
Primary and Fabricated Metals	16.3	16.3	14.4	+0.0	+1.9
Primary Metals	7.0	7.0	6.4	+0.0	+0.6
Fabricated Metals	9.3	9.3	8.0	+0.0	+1.3
Machinery	68.1	68.1	62.9	+0.0	+5.2
Other Durable Goods	45.2	45.2	40.9	+0.0	+4.3
Aircraft and Missiles	20.2	20.5	18.5	-0.3	+1.7
Lumber and Wood Products (Except Furniture)	7.0	6.9	7.0	+0.1	+0.0
All Other Durable Goods	18.0	17.8	15.4	+0.2	+2.6
Nondurable Goods	37.1	36.9	35.9	+0.2	+1.2
Food and Kindred Products	8.4	8.2	8.4	+0.2	+0.0
Apparel	5.1	5.1	5.5	+0.0	-0.4
Printing and Publishing	13.4	13.2	12.5	+0.2	+0.9
All Other Nondurable Goods	10.2	10.4	9.5	-0.2	+0.7
Mining and Quarrying	13.0	13.1	14.3	-0.1	-1.3
Copper Mining	9.9	10.1	11.4	-0.2	-1.5
Other Mining and Quarrying	3.1	3.0	2.9	+0.1	+0.2
Construction	93.8	92.4	81.8	+1.4	+12.0
Trans., Communications, and Public Utilities	60.1	59.5	56.7	+0.6	+3.4
Transportation	26.0	25.6	23.8	+0.4	+2.2
Communications and Public Utilities	34.1	33.9	32.9	+0.2	+1.2
Trade	279.7	274.4	260.1	+5.3	+19.6
Wholesale Trade	56.4	55.4	52.2	+1.0	+4.2
Retail Trade	223.3	219.0	207.9	+4.3	+15.4
General Merchandise and Apparel	38.3	37.3	35.7	+1.0	+2.6
Food Stores	35.4	34.9	33.6	+0.5	+1.8
Automotive and Service Stations	26.1	26.2	24.4	-0.1	+1.7
Eating and Drinking Places	77.9	76.3	72.3	+1.6	+5.6
Other Retail Trade	45.6	44.3	41.9	+1.3	+3.7
Finance, Insurance, and Real Estate	69.7	69.4	66.3	+0.3	+3.4
Services and Miscellaneous	262.8	259.6	242.0	+3.2	+20.8
Hotels and Other Lodging Places	27.6	26.5	24.4	+1.1	+3.2
Business Services	57.0	56.8	48.4	+0.2	+8.6
Health Services	67.2	66.8	64.8	+0.4	+2.4
Other Services	111.0	109.5	104.4	+1.5	+6.6
Government	217.3	209.5	212.5	+7.8	+4.8
Federal	39.8	40.1	39.0	-0.3	+0.8
State and Local	177.5	169.4	173.5	+8.1	+4.0
School	109.4	101.4	107.0	+8.0	+2.4

* Preliminary

** Normal seasonal variations have been eliminated to reflect underlying economic trends.

NOTE--Prepared in cooperation with the U.S. Department of Labor,Bureau of Labor Statistics.

MARICOPA COUNTY					PIMA COUNTY				
			-- Amt Change --					-- Amt Change --	
Oct.* 1984	Sep. 1984	Oct. 1983	Sep. to Oct.	1983 to 1984	Oct.* 1984	Sep. 1984	Oct. 1983	Sep. to Oct.	1983 to 1984
928.4	904.5	866.5	+23.9	+61.9	268.0	260.7	257.3	+7.3	+10.7
29.8	27.6	51.8	+2.2	-22.0	10.8	9.5	19.0	+1.3	-8.2
3.2	3.1	6.0	---	---	4.0	3.6	7.4	---	---
3.3	3.2	6.1	---	---	4.0	3.8	7.4	---	---
898.6	876.9	814.7	+21.7	+83.9	257.2	251.2	238.3	+6.0	+18.9

BE USED FOR ECONOMIC ASSISTANCE PROGRAMS.

NONAGRICULTURAL WAGE AND SALARY EMPLOYMENT BY PLACE OF WORK

766.4	753.6'	707.6	+12.8	+58.8	213.3	209.7	201.6	+3.6	+11.7
125.5	125.2	115.0	+0.3	+10.5	29.2	29.5	27.1	-0.3	+2.1
100.3	100.0	90.6	+0.3	+9.7	24.2	24.6	22.4	-0.4	+1.8
4.4	4.4	3.8	+0.0	+0.6					
10.5	10.4	9.1	+0.1	+1.4					
54.5	54.6	50.2	-0.1	+4.3					
30.9	30.6	27.5	+0.3	+3.4					
25.2	25.2	24.4	+0.0	+0.8	5.0	4.9	4.7	+0.1	+0.3
5.1	5.1	5.2	+0.0	-0.1					
2.9	2.9	3.2	+0.0	-0.3					
9.8	9.7	9.2	+0.1	+0.6					
7.4	7.5	6.8	-0.1	+0.6					
0.7	0.7	0.6	+0.0	+0.1	2.9	3.1	3.5	-0.2	-0.6
65.1	63.8	57.0	+1.3	+8.1	19.4	19.2	16.0	+0.2	+3.4
39.2	38.7	36.5	+0.5	+2.7	9.2	9.2	8.7	+0.0	+0.5
17.4	17.1	15.8	+0.3	+1.6	4.2	4.2	3.7	+0.0	+0.5
21.8	21.6	20.7	+0.2	+1.1	5.0	5.0	5.0	+0.0	+0.0
191.7	187.6	176.1	+4.1	+15.6	44.9	44.0	43.3	+0.9	+1.6
45.2	44.4	41.5	+0.8	+3.7	6.5	6.5	6.3	+0.0	+0.2
146.5	143.2	134.6	+3.3	+11.9	38.4	37.5	37.0	+0.9	+1.4
24.9	24.1	22.9	+0.8	+2.0	6.7	6.6	6.5	+0.1	+0.2
22.7	22.4	21.6	+0.3	+1.1	5.7	5.5	5.5	+0.2	+0.2
17.0	17.0	15.6	+0.0	+1.4	4.2	4.1	4.0	+0.1	+0.2
49.7	48.5	45.6	+1.2	+4.1	14.1	13.8	13.5	+0.3	+0.6
32.2	31.2	28.9	+1.0	+3.3	7.7	7.5	7.5	+0.2	+0.2
54.5	54.3	51.7	+0.2	+2.8	9.8	9.8	9.5	+0.0	+0.3
179.7	176.8	163.6	+2.9	+16.1	49.4	48.9	46.3	+0.5	+3.1
16.0	14.8	14.4	+1.2	+1.6	4.4	4.2	3.9	+0.2	+0.5
47.3	47.3	40.0	+0.0	+7.3	8.0	7.9	6.8	+0.1	+1.2
45.8	45.4	43.6	+0.4	+2.2	13.6	13.7	13.7	-0.1	-0.1
70.6	69.3	65.6	+1.3	+5.0	23.4	23.1	21.9	+0.3	+1.5
110.0	106.5	107.1	+3.5	+2.9	48.5	46.0	47.2	+2.5	+1.3

-- Prepared by Labor Market Information, Research and Analysis (CPS-MOD, 1/84)

NONMETROPOLITAN COUNTIES LABOR FORCE AND EMPLOYMENT

October 1984 (Preliminary)

	Apache	Cochise	Coconino	Gila	Graham	Green-lee	La Paz
TOTAL CIVILIAN LABOR FORCE*.	14,275	29,075	36,825	13,525	7,600	4,000	4,850
Total Unemployment	1,475	1,675	2,200	1,325	600	275	475
Rate	10.3%	5.8%	6.0%	9.8%	7.9%	6.9%	9.8%
Rate (Seas. Adj.)**. . . .	10.9%	6.1%	6.7%	9.9%	7.9%	6.6%	-INA-
Total Employment	12,800	27,400	34,625	12,200	7,000	3,725	4,375

THE ABOVE LABOR FORCE STATISTICS SHOULD NOT BE USED
FOR ECONOMIC ASSISTANCE PROGRAMS

	Apache	Cochise	Coconino	Gila	Graham	Green-lee	La Paz
TOTAL WAGE AND SALARY. . . .	13,100	21,875	31,950	9,700	4,350	3,125	2,475
Manufacturing.	750	2,075	2,625	1,350	125	325	100
Mining and Quarrying	50	325	50	1,600	75	1,675	0
Construction	1,275	950	1,175	500	125	50	50
Trans., Comm., & Pub. Util..	1,650	1,350	2,175	275	150	50	50
Trade.	1,050	4,425	7,450	1,725	1,175	350	800
Fin., Insur., & Real Estate.	175	625	600	225	125	25	100
Services and Miscellaneous .	3,250	2,575	7,425	1,550	725	100	675
Government	4,900	9,550	10,450	2,475	1,850	550	700

	Mohave	Navajo	Pinal	Santa Cruz	Yavapai	Yuma
TOTAL CIVILIAN LABOR FORCE*.	22,425	24,125	30,700	8,800	30,850	36,175
Total Unemployment	1,600	1,925	2,625	1,400	1,700	3,675
Rate	7.1%	8.0%	8.6%	15.9%	5.5%	10.2%
Rate (Seas. Adj.)**. . . .	7.2%	8.2%	8.5%	13.6%	5.7%	10.2%
Total Employment	20,825	22,200	28,075	7,400	29,150	32,500

THE ABOVE LABOR FORCE STATISTICS SHOULD NOT BE USED
FOR ECONOMIC ASSISTANCE PROGRAMS

	Mohave	Navajo	Pinal	Santa Cruz	Yavapai	Yuma
TOTAL WAGE AND SALARY. . . .	15,700	17,050	23,375	7,250	17,325	23,150
Manufacturing.	2,275	1,875	2,825	875	2,075	1,750
Mining and Quarrying	250	1,100	3,850	25	300	50
Construction	950	650	625	225	1,075	1,625
Trans., Comm., & Pub. Util..	950	1,600	1,025	575	875	1,025
Trade.	4,475	3,050	3,800	2,850	4,650	7,375
Fin., Insur., & Real Estate.	750	275	750	225	725	775
Services and Miscellaneous .	2,975	4,050	2,175	1,075	3,150	3,950
Government	3,075	4,450	8,325	1,400	4,475	6,600

*Adjusted to the Current Population Survey (CPS) to reflect place of residence.
**Seasonal adjustment not applicable for economic assistance programs.

NOTE--Series for Yuma and La Paz counties start January 1983. Data are not comparable to any past series.

Prepared in conjunction with the U.S. Department of Labor, Bureau of Labor Statistics

ARIZONA LABOR FORCE AND EMPLOYMENT FOR ECONOMIC ASSISTANCE PROGRAMS

August 1984 (Final)

County	Civilian Labor Force	Employment	Unemployment	Rate
Statewide	1,379,212	1,316,888	62,324	4.5%
Apache	13,447	12,015	1,432	10.6
Cochise	27,464	25,741	1,723	6.3
Coconino	34,884	32,785	2,099	6.0
Gila	13,365	12,141	1,224	9.2
Graham	6,965	6,423	542	7.8
Greenlee	3,852	3,599	253	6.6
La Paz	4,534	3,999	535	11.8
Maricopa	875,032	845,656	29,376	3.4
Mohave	21,357	19,855	1,502	7.0
Navajo	23,126	21,070	2,056	8.9
Pima	254,568	244,376	10,192	4.0
Pinal	28,142	25,435	2,707	9.6
Santa Cruz	8,398	6,995	1,403	16.7
Yavapai	29,454	27,690	1,764	6.0
Yuma	34,624	29,108	5,516	15.9

These figures are the only official BLS labor statistics to be used for revenue sharing purposes. They are not designed to be used as economic indicators. Note: Series for Yuma and La Paz counties start January 1983. Data are not comparable to any past series.

ESTIMATED HOURS AND EARNINGS OF PRODUCTION WORKERS IN SELECTED INDUSTRIES IN ARIZONA

October 1984

INDUSTRY	AVERAGE WEEKLY EARNINGS			AVERAGE WEEKLY HOURS			AVG. HOURLY EARNINGS		
	OCT.* 1984	SEP. 1984	OCT. 1983	OCT.* 1984	SEP. 1984	OCT. 1983	OCT.* 1984	SEP. 1984	OCT. 1983
FOR THE STATE OF ARIZONA*									
Manufacturing	364.83	368.10	369.74	40.9	40.9	40.9	8.92	9.00	9.04
Aircraft & Missiles	INA	INA	494.77	INA	INA	42.8	INA	INA	11.56
Food & Kindred Products	302.48	319.48	333.48	39.8	39.2	39.7	7.60	8.15	8.40
Primary Metals	494.86	478.14	456.49	39.4	39.0	38.2	12.56	12.26	11.95
Machinery	322.32	327.18	351.78	40.8	41.0	41.0	7.90	7.98	8.58
Copper Mining	590.86	593.42	493.98	42.6	42.6	36.7	13.87	13.93	13.46
Construction	429.02	429.30	458.14	36.7	36.6	37.8	11.69	11.72	12.12
Utilities	560.77	560.77	544.36	44.4	44.4	45.1	12.63	12.63	12.07
Retail Trade**	235.55	234.94	214.09	35.0	34.5	33.4	6.73	6.81	6.41
Wholesale Trade	351.00	358.21	355.66	39.0	38.6	40.6	9.00	9.28	8.76

* Preliminary

** Excludes eating and drinking places.

NOTE--These estimates are based on a sample of full and part-time production and related employees whose payroll and hours are reported for the pay period which includes the 12th of the month. Prepared in cooperation with the U.S. Department of Labor, Bureau of Labor Statistics.

--Prepared by Labor Market Information, Research and Analysis (1972 SIC, 1/84)

HIGHLIGHTS OF A NATIONAL CONFERENCE ON CAREER GUIDANCE IN THE COMPUTER AGE

The National Occupational Information Coordinating Committee (NOICC) and eight other national organizations concerned with career counseling sponsored a national conference in Charleston, South Carolina at the Sheraton Charleston Hotel during October 24-26. As Arizona's representative to that conference, I want to pass along some information and impressions gleaned from the proceedings. This is not just for the purpose of filling space with a report but as a fulfillment of an obligation to others for whom it would have been useful to attend, but who could not.

The keynote speaker set the tone of the conference, testing the audience's knowledge of important statistics with ramifications for effective career counseling. You could tell he was an expert, because he used slides and asked six questions of which I could only correctly answer one. He was Dr. Harold L. Hodgkinson, senior fellow, Institute of Educational Leadership, Washington, D.C. It seemed that his major point in conducting the test was to make everyone aware that information available from the Census, though almost five years old, still contains significant facts about America of which many of us are still unaware. Concerning the nature of the family he noted:

1. Almost 60% of children born in 1983 will live part of their lives before age 18 with only one parent.

2. Dual-earner couples are the new rich; the new poor are single-earner families, especially if the single head of household is Black, Hispanic or female.

3. We sometimes forget that the baby-boom generation (born between 1946-1964) dominates our society as 34 percent of the population. The significant fact about this group is that many are now middle-aged.

4. Even more significantly, there are more people over the age of 65 than there are teenagers.

5. But minorities are, on average, younger than the general population.

6. It can be implied, then, that the next baby boom will be one of minorities.

Concerning needed job skills in the 1990s, Dr. Hodgkinson referred to the ranking list from the occupational projections section of the Occupational Outlook Handbook. He drew attention to these significant facts:

1. The high employment jobs are janitors, waitresses and other service jobs, not "high tech." To illustrate the trend, Dr. Hodgkinson noted that McDonald's now employs more people than General Motors.

2. Providers of more jobs are not the Fortune 500 companies, but smaller businesses.

3. In the ranking distribution of jobs by occupation, there is nearly no middle level. Opportunities are there for either janitors and waitresses, or engineers and managers.

4. An astounding fact with which we will have to deal is that young minorities who have more education and political clout than ever before will get the same jobs their parents got with a third-grade education.

How the average person can keep track of these and other facts significantly affecting the nature of our society is a problem. Although high tech is not necessarily the career solution for all, or even for more than a significant minority, it is a solution for keeping up with the knowledge explosion. Dr. Hodgkinson points out that the the economics of communication is such that it favors increasing use of electronic communications, and disfavors communication by paper. That is, the cost of paper has been increasing substantially in recent years while the cost of electronic transmission of data has been declining at fantastic rates. It is possible now to access computer services with large libraries of information. You can dial them up through a "modem" to your home computer.

The information services go by such names as DIALOG which has Census and BLS data as well as other information, THE SOURCE which has a listing of 5000 job openings, PLATO, COMPU-SERVE, SCANSET and others. The best technique in using their sources is to scan.

The value in scanning information for quickly obtaining important facts was illustrated in two ways. First, Dr. Hodgkinson displayed a picture of the United States taken from a satellite at night. It showed the lights of the cities around the country and their concentrations. He then asked what could be learned from the picture. Answering his own question he replied, "Population density." Despite all the publicity for the growth of the West and the Sunbelt, the greater densities are still in the East, especially apparent in megolopolic areas christened with such names as Boswash, the area from Boston, Massachusetts to Washington D.C., and Cleveburg, the cities between and including Cleveland, Ohio and Pittsburg, Pennsylvania. "These areas exist as they do because they are highly efficient," Hodgkinson said. "If everybody is moving to the Sunbelt or the West, they forgot something. They forgot to turn the lights on." Hodgkinson later validated his impressions from the satellite photo by distributing population information by time zone. Contending that the time zones are nearly equal in land area, he found that 50.5 percent of the U.S. population is in the Eastern Standard time zone.

Another illustration of the value of scanning was given by showing a map of the Metro rail system in Washington, D. C. That information, in conjunction with commuting information from the Census, implied that the rail system was inappropriately designed for today's commuters. The rail system is a radial system with the central city at its axis. Commuters, on the other hand, make more trips between suburban cities than from the suburbs to the core.

In conclusion, the keynote speaker encouraged participants present to take advantage of these new on-line data libraries, to scan them for facts important in their work, and to watch for the continuing development of the emerging "thoughtware," software that synthesizes information much like a human does. This was the message of "Information Futures," the title of Dr. Hodgkinson's talk.

Right after Dr. Hodgkinson's presentation, Russell Flanders, executive director of the National Occupational Information Coordinating Committee, made a few remarks about the purpose of the conference. He said the purpose, in his view, was to gather together the people who could bring about improved delivery of career information. He noted that tools to make it possible were available now that were inconceivable 15 years ago. At the same time, he admonished, we must carefully protect the quality of the information that is manipulated by the new tools.

"Innovative Career Counseling" was the subject of a panel discussion following Russ Flander's statement of purpose. Members of the panel were Evelyn Lavaty, Nebraska Department of Education; Cynthia Johnson, director of Counselor Training, Project LEARN, University of Maryland; and Patricia Waldren, user-services specialist of the Wisconsin Career Information System.

Cynthia Johnson contended that innovation in career counseling should also help students work toward left and right brain integration. It is useful for counselors to remember that the left side of the brain is the source of logic, mathematical, and other deductive reasoning, while the right side of the brain is the source of intuitive, inductive, and artistic reasoning and awareness. Guidance systems should provide something for consideration by both sides of the brain. She suggested including "guided imagery" to assist in the integration process. Video disks used in conjunction with microcomputer systems is an increasingly popular means to that end. In this married system, microcomputers are used to find occupations that match the interests and aptitudes of students, and video disks with audio narrative show and describe those occupations being performed by real people in normal workday situations.

Another new system gaining popularity is one called FATE. This micro-computer software allows a student to simulate his or her future as various career path decisions are altered.

Dr. Johnson concluded with a challenge to counselors and systems designers to determine the appropriate roles of people and machines. There is enough to be done to keep both well occupied. Bear in mind, she admonished, that what was once described as a world of haves and have-nots has become one more often described of knows and know-nots. It is incumbent upon those in career guidance to direct the know-nots to the bridge to the other side.

Speaking from the perspective of a career information system operator and promoter, Pat Waldren recounted her experience in Wisconsin. The Wisconsin Career Information System started out with one computer and one terminal in a single Madison high school in 1975. That was "big time" then, she said, but despite its expansion to many more high schools, it is inadequate now. We need to serve all students, and anything short of reaching every one of them will not suffice. Wisconsin is expanding its reach through a program promoted by the NOICC called Improved Career Decision Making. More popularly known by the shorthand ICDM, Wisconsin and many other states are using its curriculum and format to train counselors in using labor market information to better prepare clients for the world of work. Another tool being popularly received by counselors is "Microskills," a microcomputer software package that matches students interests and proven, mastered skills with an array of occupations. The occupations are those which best utilize those identified interests and mastered skills. Finally, Wisconsin's outreach to every student is being augmented with video tapes.

Roger Moore, author of the popular book, _You Can Be President (or Anything Else)_ and guidance coordinator for the South Carolina State Department of Education, gave the luncheon speech. His message was essentially this -- anybody can be whatever they want to be if they're willing to pay the price. Delivered in Christian fundamentalist preacher style, his message convinced me he spoke the highest truth. He recited short biographies of famous people such as Lucille Ball, Babe Ruth and others from many walks of life. These once-not-so famous people overcame obstacles again and again until they acheived the kind of success they were after. He advanced his own hypothesis that it is necessary to believe in yourself with unflaging conviction in order to make it. Setbacks are to be viewed always as temporary. "Things are failures," he said, "not people."

Later, after some reflection, I wondered if his message wasn't running counter to the message of the need for good labor market and career information. The message from employment data is that we can't all be famous entertainers or athletes, only a few of us can be. To set out with either goal in mind implies paying a very high price, indeed. Perhaps career information is best which gives those who would enter these very competitive occupations some idea of the price that must be paid to enter them. What it takes to express that price, however, requires more of a dramatization than a simple ranking list of occupations by employment or job opportunities. For example, the Broadway show of several years ago called _A Chorus Line_ was an excellent dramatization of the emotional price to be paid by any dancer aspiring to perform professionally. The show made it clear that the price had to be paid everytime a dancer auditioned for a new show. It is these emotional and psychological prices that occupational supply and demand data miss totally. Descriptive information helps, but cannot come close to bringing out these aspects of careers.

The flip side of the emotional price coin is the emotional high of achieving something that has been competed for. Olympic gold medalists understand this nonmonetary reward as do all those who were the examples of Mr. Moore's speech. Perhaps that was this inspirational speaker's message to us.

In designing career information systems, we must not overlook rewards beyond those of earning a living. Rather, we must include those which make life worth living at all.

After lunch, the topic for discussion was "Functions of Career Counseling in Business and Industry." Linda Salane, director, Placement Office, University of South Carolina, offered a perspective often reported to her by employers. The goal of counseling, she said, is to increase career effectiveness. Employers measure effectiveness by profit. If an employee's behavior contributes to profit it is considered effective, so counseling should encourage behavior that leads to profit. Adaptability is a characteristic seen by employers as one that is extremely valuable. Expectations held by employees that inhibit adaptability are viewed by employers as negative. Therefore, counselors performing their role of improving people should enable their clients to adapt.

Ms. Salane highlighted six areas of counseling in business and industry that are currently in vogue. They are:

1. Hiring: career development aspects of hiring are directly related to a position's value; i.e., there are far more career development aspects for engineering positions than for assembler positions.

2. Entry: e.g., offering various work experiences on entry for the perspective they offer.

3. Career tracking: identifying stars and fast tracking them; offering lesser lights other options.

4. Avoiding obsolescence: firms may close inefficient plants and leave behind some or all of that plant's employees. Counselors are sought to help them deal with the impending closing by teaching job searching techniques. Retraining assessment falls in here as well.

5. Mid-career: counselors help reassess life goals and improve opportunities to set out in new directions.

6. Out placement: a emphemism for helping one who has been, or is about to be, fired.

In closing, Ms. Salane said counselors should encourage clients before taking a job, or even in deciding to remain on a job, to ask, (1) Is there a match between the requirements of the job and my characteristics and abilities? (2) Am I willing to make the trade offs necessary? In her discussions with employers it became abundantly clear to her that employers need and welcome counselors help.

The last event of the day before dispersing to assigned workshops was called "National Perspective on Career Education." Judith Stein, director of career education and dropout prevention for Dade County (Miami, Florida) Public Schools, made the presentation. Dr. Stein's message was primarily that despite rumors to the contrary, career education is alive and well throughout the nation. As president-elect of the American Association of Career Education, she has come to know that there are 22 very active state Career Education Associations. In her own city of Miami, Florida, there is even a Department of Dropout Prevention which not only employs career counselors, but often acts as a linkage between many related organizations that have, or use, career counseling information. She invited all present who might have an interest to attend the upcoming national convention of the National Association of Career Education. It will be held in Miami in March, 1986. "Many details are yet to be settled," she said, "but we have a hotel overlooking Biscayne Bay committed mid-season, mind you -- at $50 a night rates." Dr. Stein offered this as an appropriate forum to continue the discussion and to forge the linkages begun in Charleston.

Participants were then sent to workshops to develop recommendations about how to better develop, deliver and use career information.

(Events of the final days of the conference will be reported in an upcoming issue of the Arizona Labor Market Newsletter.)

Ron Simon

NEW DEVELOPMENTS

Manufacturing - Sperry Corp. has announced plans to close its aircraft drone conversion operations at the Phoenix-Litchfield Airport in June of 1985. Sperry employs about 60 people at the plant where obsolete military aircraft are converted for use as remotely piloted target drones. The company has said it will try to place the employees at its other Phoenix-area operations.

AiResearch Manufacturing Co. has begun construction in Tucson of a $25 million plant for electronics research, development and manufacture. While employment is expected to reach 4,000 by 1993, present employment at the company's two leased locations is about 380. The company plans to recommence hiring in January and anticipates that employees will total about 800 by the end of next year. According to Frank Washburn, industrial-relations director of the firm's electronics systems division, AiResearch is looking mainly for electronics engineers, computer experts and technicians and employees for "support activities like accounting and payroll."

Printing - Casa Grande has been chosen as the site of a $90 million printing plant to be built by Meredith/Burda, a Des Moines printing company. The first phase of construction on the facility will be complete by mid-1986, when it will employ 220 workers. A second phase that will create another 140 jobs is expected to be finished in the first quarter of 1988.

Globe Ticket Co., a specialty printing firm based in Pennysylvania, is opening a printing plant at the Kingman Airport Industrial Park. The facility, the firm's sixth in the nation, will initially employ 35 people. Company officials said they were drawn to Kingman, in part, because of the cooperation of Mohave Community College. The college is training 20 prospective employees with equipment supplied by Globe.

Mining - Continuing depression in the copper industry forced the layoff of 120 workers in October at Asarco's Mission Mine at Sahaurita. In August, Asarco laid off about 170 workers at its Silver Bell open pit 40 miles northwest of Tucson but staffing at the Mission Mine, the company's lowest-cost producer, remained untouched until October. Most of those laid off were hourly employees. Still working at the mine are 286 hourly and 132 salaried employees.

Anamax Mining Co. has ordered a major reorganization of its Twin Buttes Mine near Tucson that will result in 187 salaried workers being laid off and 100 striking hourly workers being recalled under an imposed contract that will cut wages by $4.50 an hour. The layoffs, to be complete by early next year, are being staggered because the employees are working on projects that will conclude on different dates. When the reorganization is finished, Twin Buttes is to have 100 hourly workers and 88 on salaries. In 1981, Twin Buttes had a work force of 1,100 hourly and 400 salaried workers and produced 260 million pounds of copper. Production at the mine in the past year has been 54 million pounds, and will drop to 30 million pounds next year.

Distribution Center - Golden State Foods Corp. is expanding its Phoenix operations with a new 48,000-square-foot facility. Golden State is the major supplier of beef patties and paper products to McDonald's restaurants in the nation. The new facility will distribute food and paper products to outlets in Arizona, New Mexico, parts of Colorado and Utah, and Las Vegas, Nevada.

Health Services - The Mayo Clinic is seeking a Scottsdale location for a satellite facility. A spokeswoman for the clinic, based in Rochester, Minnesota, has said the Arizona operation will be a group practice which will begin with about 20 to 30 physicians.

Humana Inc. laid off 24 full-time and 19 part-time employees at its two Phoenix hospitals. Hospital officials said all the employees would be offered the opportunity to be placed on an inactive status, which would make them eligible for immediate call-back if the hospital-patient census improves. Employees at the corporation's other 89 hospitals throughout the country were also affected by the October layoffs.

Hotels - The $20 million Radisson Hotel Centennial has opened on a 4.5 acre site northeast of Mesa's Centennial Hall. The hotel is linked by a walkway to the new city-owned Centennial Hall Conference Center.

Advertising - Headquarters for the Gannett Outdoor Group, the largest outdoor-advertising firm in North America, are being moved from Phoenix to New York. The shift will affect 22 people in Phoenix, most of whom are expected to move to New York or to other areas in the Gannett company. Other Gannett operations in the Valley will not be affected.

FIRE - Arizona's finance, insurance and real estate industry had a gross product of $6 billion in 1983 according to the Bureau of Business and Economic Research in the College of Business Administration at Arizona State University. With a 16.7 percent share of the Arizona Gross State Product, FIRE is Arizona's largest industry, surpassing the trade industry for the first time in 1983. Gross State Product is the value of production minus purchases of intermediate goods and services. In terms of employment, this sector registered nearly 63,000 people in 1983, placing it as only the sixth largest sector (out of eight) when measured by employment.

Allstate Insurance Co. is moving its regional administrative offices from Rancho Bernardo, California, to Phoenix. The move is expected to be completed before the end of the year and will bring about 40 employees from California to the Valley. As many as 25 new secretarial and claims personnel will also be hired.

Retail - Walgreen Co. plans to add eight outlets in the Phoenix area during the next two years and four outlets in Tucson by the end of next year. The chain currently has 32 stores in the Phoenix area and 13 stores in Tucson.

K mart has opened a new Phoenix store which is the corporation's third prototype for interior design and new merchandise. First-time changes in K mart stores were made in late 1983 at a Troy, Michigan, store. Upgrading of existing K marts will be completed by 1986, a company official said. The new store employs 130, bringing K mart's Arizona employees to 2,130.

Education - Construction has begun on the Samaritan College of Nursing, a $1.6 million nursing-education facility on the campus of Grand Canyon College. Funded jointly by the college and Samaritan Health Services, the structure is scheduled for completion by next fall. Samaritan and Grand Canyon established the nursing program in 1981. There are currently 160 students enrolled.

The University of Arizona has begun work on its $8 million to $10 million Agricultural Center. The 2,100-acre development, to be located in Maricopa, replaces research facilities that the Arizona Board of Regents has decided to retire in urban areas.

Election Results - The two anti-union propositions on the Arizona November ballot showed conflicting results. Proposition 300, which prohibits cities and towns from enacting their own version of Little Davis-Bacon mandating payment of "prevailing wages" on public-works projects, was passed by a margin of some 11,000 votes. A second measure, Proposition 102, would have prohibited strikes by public employees. The measure was defeated by more than 100,000 votes.

Arizona Counties Declared "Labor-Surplus Areas" - Twelve of the state's 15 counties have been labeled high-unemployment areas that should receive preference when federal contracts are awarded. The U. S. Department of Labor has designated every county except Maricopa, Pima and Yavapai as "labor surplus areas." The designation, which lasts through fiscal 1985, gives employers in the areas preference over other firms when bidding on federal contracts. There are 1,825 such areas nationwide.

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ARIZONA LABOR MARKET INFORMATION NEWSLETTER

Vol. VIII No. 1
January 1985

Unemployment Rate

Seasonally Adjusted
November*

ARIZONA	4.1%
Maricopa Co.	3.1%
Pima Co.	4.1%
UNITED STATES	7.2%

Consumer Price Index

National-October
1967 - Base Year

Wage Earner/Clerical Worker -	312.1
% Chg. Yr. Ago	3.6
All Urban -	315.3
% Chg. Yr. Ago	4.2

Phoenix-3rd Qtr.
1977 - Base Year

All Urban -	183.1
% Chg. Yr. Ago	5.7

Producer Price Index

National-November*
1967 - Base Year

All Commodities-	310.4
% Chg. Yr. Ago	1.6
Finished Goods -	292.3
% Chg. Yr. Ago	1.9

* Preliminary

The Cost of Hiring

A recent question asked of this office was, "What is the average cost of hiring an employee?" A review of the existing literature revealed wide variations in the data. However, consensus did exist for one conclusion--the costs are high.

Kenneth S. Teel has categorized the costs of replacing an employee into four groups: separation costs, vacancy costs, acquisition costs and training costs. He found that replacement costs vary among organizations and among job levels. Costs of replacing hourly employees range from 7 to 20 percent of the first year's pay; those of replacing nonsupervisory salaried personnel range from 18 to 31 percent; and those of replacing managers range from 23 to 175 percent.

The acquisition and training costs constitute the cost of hiring an employee, whether as a replacement employee or as one filling a newly created position. Teel lists the various elements of acquisition and training costs as follows:

ACQUISITION COSTS

Advertising
Brochures
Employment agency fees
College recruiting
Application processing
Applicant travel
Reference checks

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JoAnn H. Wilson, editor

ACQUISITION COSTS (Contd.)

- Interview(s)
- Medical exam
- Psychological exam
- Moving and relocation
- Accounting and payroll entries
- Human resources department overhead

TRAINING COSTS

- New hire orientation
  - Employee's time
  - Trainer's time
- Formal job training
  - Employee's time
  - Trainer's time
- On-the-job training
  - Supervisor's time
  - Non-supervisory helper's time
- Substandard performance of new employee
- Extra work for others to offset substandard performance
- Higher error rate for new employee

A 1969 survey of 40 companies in Washington, D.C. conducted by Anthony DePasquale was able to obtain concrete hiring cost data from only 11 of the companies surveyed. The others were unable to compute a monetary cost of hiring. Of those who did supply a figure, the average cost of hiring 841 professional personnel was $1,467 and of hiring 1,879 nonprofessional personnel was $175. It should be noted that prices of goods and services, as measured by the Consumer Price Index, have nearly tripled since 1969 when these figures were collected.

Recruiting is a very expensive part of hiring costs. Ray A. Killian calculated average costs for filling a $20,000 salary position in 1976. Those costs were as follows:

Various forms of advertising	$ 400
Travel for interviews	750
Executive interview time	600
Agency fee	4,000
Travel and other expenses for employee and family to check housing	800
Moving expenses and other related costs	2,000
Real estate fees (if paid)	5,000
TOTAL	$13,550

Robert Sibson had some other examples based on 1975 costs:

	ANNUAL SALARY	COST OF HIRING
Secretary	$ 7,800	$ 1,520
Accountant	14,000	2,965
Senior Engineer	17,500	4,235
Low-level Manager	20,000	11,050
Mid-level Manager	30,000	18,300

A breakdown of those costs by type is shown in Table 1.

To reduce hiring costs, Sibson suggests that an employer:

- Measure total hiring costs and cost per hiring.
- Look at turnover selectively.
- Analyze recruiting methods.
- Reduce start-up costs.
- Use hiring costs in manpower planning.

Recruiting costs can sometimes be reduced by changing the sources that are used. The ranking of sources in Table 2 was developed by Roger H. Hawk. He also organized recruiting costs into a three-part structure:

- Personnel costs--salaries, benefits, overtime premiums.
- Operational costs--telephone and telegraph; recruiting staff travel and living expenses; applicant travel and living expenses; professional fees and services; advertising in newspapers, technical journals, radio and TV; field trips; pre-employment physical exams; information services; supplies, materials and postage.
- Overhead--rent, office furniture, equipment.

The last major component of hiring costs is training costs. Most employees must be oriented and trained to a standard level of competence before assuming their regular duties. Wayne F. Cascio points out that there are three major types of training costs: informational literature, instruction in a formal training program and instruction by employee assignment. Although recent figures on training new hires are not available, Anthony Carnevale estimates that industry spends at least $30 billion annually for all training and this does not include salaries.

To gain an Arizona perspective on this issue, several organizations, both public and private, were contacted. It was very difficult for most of them to offer any kind of figures. However, one large regional company with local facilities in Arizona did provide some information. Its basic costs include items such as recruiting, applications, interviewers' time, testing, reference checking, arranging medical exams and orientation. The company also calculates a load factor which includes benefits, overhead and miscellaneous support and supplies. The following basic costs (excluding the load factor) are from 1982.

Service Worker	$ 425
Typist	443
Basic Craft Worker	466
Stenographer	481
Complex Craft Worker	693
Manager	3,000

That company has also derived an average training cost of $10 an hour per person, with the training lasting from three days to six months.

As can be seen from the various studies, there is no simple answer to the question concerning hiring costs. Variables include occupation, recruitment source and type of training. Since the average annual job turnover rate for all companies as reported by the Bureau of National Affairs is almost 22 percent of the work force (Cascio, p. 17), hiring costs are a substantial expense for employers.

Barbara Keene

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Anthony Carnevale, "Human Capital: The Future for Private Training," Training and Development Journal, 36 (January 1982), 41-48.

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Anthony DePasquale, "Personnel Digests," Personnel Administration, 32 (January-February 1969), 56.

Roger H. Hawk, The Recruitment Function, American Management Association, 1967.

Ray A. Killian, Human Resource Management: An ROI Approach, American Management Association, 1976.

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Kenneth S. Teel, "Estimating Employee Replacement Costs," Personnel Journal, 62 (December 1983).

Table 1

HIRING COST PERCENTAGES BY TYPE OF COST

	Agency Fees	Interview Time	Adminis-trative	Start-Up	Relocation
Secretary	51	13	10	26	0
Accountant	61	9	7	23	0
Senior Engineer	68	6	5	21	0
Low-level Manager	40	3	2	10	45
Mid-level Manager	33	3	2	8	54

Table 2

RECRUITING SOURCES RANKED BY COST

Low Cost

Source	Factors in Cost*
Employee referrals	
Company transfers and promotions**	Pro rata share of personnel register
Write-ins	
Ad responses	Advertising costs
Field trips	Recruiters' travel and living expenses; advertising costs
Employment agencies	Agency fee, recruiters' travel and living expenses (occasionally)

High Cost

*Initial contact and interview expenses are factors of cost no matter what the source.

**Excludes cost of any unique relocation policies, such as refunds on cost of sale of home.

HIGHLIGHTS OF A NATIONAL CONFERENCE ON CAREER GUIDANCE IN THE COMPUTER AGE

(Part II)

The National Occupational Information Coordinating Committee (NOICC) and eight other national organizations concerned with career counseling sponsored a national conference in Charleston, South Carolina on October 24-26, 1984. Part I of a report on this conference appeared in the preceding December issue. The conclusion follows.

Day two of the conference opened on the topic of "Federal and State Leadership." The topic was kicked off with a reminder of the warning implicit in the title of an article recently published in the Vocation Education Digest, "Hand in Hand or Fist in Teeth." The warning was echoed by Robert M. Worthington, who is assistant secretary for vocational and adult education at the U.S. Department of Education. The article, he said, pointed out that Congress demands that education and labor work together. The NOICC was created especially to bring that about in the area of occupational and career information; NOICC is mandated to produce occupational supply and demand information for career and vocational decisions. Old interagency rivalries that lead to expensive duplication, or that inhibit integration of both agencies' information, will not be tolerated at either the national or state level.

Mid-morning brought a discussion of the Military-Civilian Occupational Crosscode Project sponsored by the Office of the Assistant Secretary of Defense. Anita Lancaster, acting assistant director, Office of Accession Policy, U. S. Department of Defense, made the presentation. Earlier, she had passed out an "Abstract" of the project stating it had three deliverables:

1. the development of an occupational crosscode between the classification structures of the uniformed military services and various occupational classification systems including the Dictionary of Occupational Titles (DOT) and the Standard Occupational Classification (SOC) structure;
2. the aggregation of the crosscodes into a form usable by producers of civilian career information resources, such as computerized career information delivery systems (CIDS); and
3. the aggregation of the crosscodes into a form appropriate for displaying a joint-service occupational and training publication entitled Military Career Guide: Employment and Training Opportunities in the Military.

When beginning on the project, it was startling to Dr. Lancaster that the Army, Navy, Marines and Air Force each had separate occupational systems. It was the purpose in producing the third deliverable to develop one system that could be commonly used. The Military Career Guide, patterned after the Occupational Outlook Handbook, was completed in July 1984. It is available free by contacting:

MEPCOM
2500 Green Bay Road
North Chicago, Illinois 60064
Telephone: 1-800-323-0513

Another product of the project is called "Military Occupational & Training Data." The MOTD is designed for career information resource developers. It contains narrative and coded data for those seeking military occupational information to include in other publications. To obtain the MOTD, write:

Dr. Anita R. Lancaster
OASD (MI&L) (MP&FM) (AP)
2B271, Pentagon
Washington, D.C. 20301-4000

The rest of the morning was taken up in the subject of "Alternatives for the Delivery of Career Information." Joyce Kinnison, now a private consultant in the area of career information development but formerly the North Carolina SOICC director, acted as moderator of a panel discussing alternatives. The Wisconsin Career Information System User-Services Specialist, Darcy Mellon-Sullivan, offered three alternatives. The first was a State Occupational Outlook Handbook (OOH). She said Wisconsin had developed one patterned after the national OOH which was essentially a "dump" of the information on the Wisconsin Occupational Information System. Another product suggested was one which many state labor market information units had done called "Occupational Licensing Requirements." The third alternative was area lists of local labor market analysts, their names, addresses and telephone numbers.

The Michigan Occupational Information System director, Joe McGarvey, said his state offered its OIS on microfiche with a manual scan sheet, a microcomputer search process of a microfiche file, and, of course, total computer delivery with search software of a mainframe computer file. Mr. McGarvey emphasized that the real cost of an information system is in the development of the information in the first place, and in user training, not in development of the delivery systems. He also had come to the conclusion from his own experience with the various systems that there was much greater usage of total computer interactive systems than of microfiche.

Oregon, whose University of Oregon Research Center has been a pioneer in development of occupational information systems for other states as well as its own, was represented by Bruce McKinlay, executive director of the Career Information System. For alternative modes to computer delivery, Mr. McKinley suggested several low-tech possibilities. Needle sort deck sets was one of these. By passing a needle through punched holes of cards in a deck containing occupational information, it is possible to graphically illustrate the importance of certain kinds of preparation to many careers. The limited opportunities for those who have had no mathematics in school can be shown by needle sorting on the math requirement, and pitching the small remainder of the deck onto the floor. He noted that the CIS also had paper products, and that these should be considered as complimentary to a computer system.

The final panelist was J.B. Morton, retired SOICC director from Oklahoma. He used his time to promote Improved Career Decision Making (ICDM) as an important alternative to computer CISs. It was a very good method, in his estimation, for training users about available career information. He suggested paying special attention to the ICDM matrix of products (national, state) and offering it as a handy reference for counselors' routine use. He also suggested a solution to the lack of money for career information products that states suffer. He said he approached a foundation to pay for printing an occupational manual and found it very receptive to the idea. It can also be very successful to use newspapers for printing and distribution of career tabloids, he said.

That ended the morning session. The afternoon session was to begin on the subject of "Promoting Effective Use of Computers in Career Counseling," which was modified to "A Systems Approach to Career Information."

The title was modified by Carl McDaniels, professor of education and coordinator of career education, Virginia Polytechnic Institute, Blacksburg, Virginia. As author of many books on the subject of career education, Dr. McDaniels felt it was useful to give the term "system" a very broad definition. He defined system as "things formed together according to a scheme." In addition, he believed it was important to recognize all systems have two elements -- the cognitive and the affective. The cognitive element of a system involves seeing and reading, hearing and touching. The affective element involves feeling, sensing, caring and dreaming.

Good career information systems include affective elements as well as cognitive ones. Some ways to include affective elements in career information systems, he suggested, were the following:

1. Set up ways to enable first-hand observations. This would include such techniques as programs for youth that permitted "shadowing." As many are aware, this is a technique whereby students are permitted to spend time with workers in occupations that interest them. The shadower follows the worker through several workdays of activity in order to become aware of all aspects of the job. Other first-hand observation techniques include summer work in the student's areas of interest and role playing.

2. Integrate work and leisure activities. Ask students about their hobbies, suggest occupations that use those hobby skills, and arrange opportunities to perform work using the hobby skills. One way to find opportunities is to contact local Rotary clubs. This ser-

vice organization even has an annual vocational assistance month. Members volunteer their services during this period to help youth know and understand their work.

3. Use slides and tapes and other video and audio combinations. Other examples include telephone hotlines, posters and other large visuals, workbooks and computer simulation.

In conclusion, Dr. McDaniels recited three dimensions of a career information system: (1) Use a multimedia approach. (2) Give wide locational dispersion to the delivery system. For example, maintain a presence at state fairs, shopping centers, libraries, senior citizen centers, and in business and industry. (3) Appeal to a wide range of user groups. The best served age group by most systems today is that between 12 and 22 years old. It is just as important to reach the other age groups since career changes can occur at any time in life. Give consideration to mobile career centers. Take advantage of good buys on recreational vehicles and use them for your mobile units. Finally, get involved with church groups. They have many resources to aid in getting your message out.

The next subject, "Identification of Counselor's Professional Needs," was discussed by a counselor and a former guidance coordinator. They were Hilda Minkoff (the counselor), George Washington High School, Philadelphia, Pennsylvania; and Kathryn Altman (former guidance coordinator), Charleston County South Carolina School District. They reported the results of a nationwide survey of counselors undertaken for the American School Counselors Association. Through the survey they discovered the following facts which they believe are most important: (1) Many counselors do not have a computer -- mainframe, mini, micro or otherwise. (2) Many counselors want and need training in the use of computers. (3) Counselors want help in reviewing the proliferating commercial software. (4) Counselors believe there is a need to support the view that there are other forms of learning than cognitive learning. (5) Counselors believe there is a need for support for the establishment of career resource centers. In addition, the survey identified a need for follow up of graduates to see if counseling was having the intended effect, and for job placement assistance to recent graduates not going on for advanced education.

Having ended the planned presentations for the second day of the conference, participants were again sent to their respective workshops to develop recommendations for improving career information delivery.

Friday, October 26, 1984 opened once more with a panel discussion, "Federal Legislative Considerations." Members were Walton E. Webb, coordinator of State and Interagency Networks for NOICC; Robert Williamson, senior legislative aide, U. S. House Committee on Education and Labor; Richard E. Johnson, counsel, Committee on Education and Labor, U. S. House of Representatives; John W. Smith, senior professional assistant, U.S. House Committee on Education and Labor; and Laura Morris, special assistant to U.S. Senator Hollings.

Moderator Walt Webb opened with the question, "What are the purposes of the Job Training Partnership Act (JTPA), and the Carl Perkins Vocational Education Amendments -- especially as they relate to career information delivery systems (CIDS)?" Mr. Williamson responded first. He admonished those present to realize that in Congress, legislative emphasis on education is small. Money for education, he said, is in the states, not at the national level. However, if anyone believed Congress should draft legislation or make appropriations specific to career information delivery, Mr. Williamson encouraged participants present to talk to congressional people -- that is, congressmen themselves, or their staffs. (Later he revealed that the telephone number for the House Labor and Education Committee staff people is (202) 225-0213.)

Dick Johnson, who as legal counsel to the House Labor and Education Committee drafted the Labor Market Information section of

JTPA, had a different kind of response. He noted that both JTPA and the Vocational Education Amendments of 1984 are targeted to the hardest to serve. The emphasis in both is in program improvement with special efforts for the hard to serve. Congress's intention is to make a difference for the especially handicapped in the labor market. That, of course, includes economically disadvantaged minorities and older workers.

Mr. Smith disagreed. From his perspective as former assistant to Congressman Augustine F. Hawkins, he contended JTPA has many problems. The one thing it does not do is serve the hard to serve, that is, Blacks and Hispanics. Rather, its requirements are more often met by "creaming," that is, by training those who have the best preparation already, and can get the greatest benefit from the additional short training period that JTPA permits. In another vein, however, there is much mention of career guidance and counseling in the Vocational Education Amendments, he said. Issuing a challenge to the conference attendees, he asked, "What are you going to do with the power it gives you?"

Somewhat in rebuttal to Mr. Smith, Mr. Williamson said, "Although JTPA is 'permanent', that is, does not have an expiration date as CETA did, it will nonetheless someday be revised as CETA was and as MDTA was before that. I know that Congressman Hawkins has an interest in this legislation and is not happy with it."

Laura Morris, a U.S. Senate aide, but more importantly with respect to this panel "one who is heavily involved in the implementation aspects of federal legislation," remarked, "Why can't the people who wrote the law understand what it means?" Ms. Morris said she is forever dealing with people in Congress and from the administration who read the same law and attach different meanings to it depending on the moment. "For instance," she said, "when the 'Jobs Bill' was passed, the director of economic development for the Congress put on a 'tirade' about how the legislation was unneeded, that all kinds of job opportunities were being projected (he named many service jobs); then he said he would spend all of his jobs money on high tech." "Is it any wonder," she exclaimed, "that I'm combative with these people?"

While the panel members were still present, questions from the audience were invited. One questioner suggested Congress could better enpower counselors to deal with the challenge of present times by seeing that what money is allocated gets directly to counselors. Some of the other concerns raised were answered by reminding participants that the Higher Education Act is up for review by Congress next year. It was suggested those concerns could be met in amendments to that legislation.

Although most of the morning was consumed by the panel on federal legislation, short periods remained for discussion of the "audible career employer," microcomputer career information software with voice output for the blind, and "OIS and CIDS linkages." The value in OIS and CIDS developers working together was expressed by Roger Lambert, director of the Wisconsin Career Information System. He pointed out that both kinds of systems use the same data, merely giving different emphasis to user groups. OIS emphasizes meeting the needs of program planners and administration while CIDS emphasizes those of students and counselors, he contended.

That ended the 1984 national conference to improve the delivery of career information. I hope that this report helps those of affiliated participating organizations in Arizona who could not attend. Those organizations include the Arizona State Occupational Information Coordinating Committee (ASOICC), Arizona Career Information System (ACIS), and members of local chapters of the Association of Computer Based Systems in Career Information, American College Personnel Association, American School Counselor Association, American Association of Counselor Development, American Vocational Association Guidance Division, National Vocational Guidance Association, Interstate Conference for Employment Security Agencies, and the National Governors' Association.

Ron Simon

THE ARIZONA LABOR IN NOVEMBER 1984

Arizona's unemployment rate dropped again in November, reversing the small increase recorded in October. At 4.1 percent, the November rate breaks the record low of 4.2 percent set in September of this year. Employment activity in Arizona during November was consistent with the rebound in employment, housing and retail sales observed nationally last month. Much of the increase in employment was expected due to seasonal factors such as Christmas-related retail trade and the beginnings of the winter tourism season. Even so, the October-to-November rise in the employment level was the largest ever recorded in the state.

Unexpectedly large numbers of jobs were created last month in a couple of key categories. Employment in construction rose sharply, with over 2,800 jobs added statewide. Most of the gains were recorded by home builders and sub-contractors providing roofing, electrical, plumbing and heating services. This is a response to a renewed surge in demand sparked by the recent declines in long term interest rates. Weather permitting, Arizona's construction industry should begin the new year on a strong note.

The manufacturing sector also performed very well during November. Nearly 900 jobs were added with 800 created by durable goods manufacturers. While most of the new jobs were located in the Phoenix area, Pima County accounted for 100 of them. This surprising strength shown by the state's durable goods producers comes at a time when manufacturing employment has remained relatively static at the national level. The outlook for these firms is uncertain. The Semiconductor Industry Association has reported weakening market conditions for three months in a row, suggesting that some of Arizona's high technology firms may reduce hiring activity in the months ahead. For now, however, Arizona manufacturing firms are operating at record levels.

The trade and service industries added jobs at faster rates than expected at this time of year, with solid gains registered throughout the state. Earlier fears of a sluggish fall and winter appear to be unfounded; Arizona's trade and service industries increased employment by 8,200 last month, about 3,000 more than the expected seasonal increase. New hotels, combined with existing operations that are staffing up for the winter season, accounted for a significant portion of the growth, while the booming business services sector, reflecting the rapid growth of commerce in the metropolitan areas, also was an important factor. Business services have grown faster in Arizona during the last 12 months than all other industries except for construction.

There was much variation in economi activity around the state during November. Eight of the 13 nonmetropolitan counties experienced rising unemployment, but most of the increases were small. While employment in some of the northern counties was falling, this was due to seasonal factors such as lower levels of tourism, construction and lumbering activity. Mining jobs were added in some areas and reduced in others. Most of southern Arizona enjoyed employment increases despite losing seasonal jobs in food processing. The trade sector performed especially well, with seasonal increases in wholesale and retail trade accounting for much of the increase, with Yuma, Santa Cruz and Cochise counties all doing somewhat better than expected.

The short-term outlook for Arizona is generally good, but uncertainty increases as we look to the future. The population, particularly in the metropolitan areas, is expanding rapidly, and may soon outstrip the ability of the economy to continue creating jobs at the current rate of 100,000-plus per year. Unemployment may rise, especially if the problems of the nation's semiconductor producers convert to layoffs and slow growth among Arizona firms. The prospect of federal budget cuts may influence the hiring patterns of the defense contractors in the state, and any increase in long-term interest rates would have a negative impact on construction in Arizona. Despite these potential problems, Arizona's economy will continue to compare favorably with the nation's economic performance for the forseeable future.

Arizona Labor Force and Employment

(in thousands)

	ARIZONA				
				-- Amt Change --	
	Nov.* 1984	Oct. 1984	Nov. 1983	Oct. to Nov.	1983 to 1984
TOTAL CIVILIAN LABOR FORCE	1477.4	1461.8	1399.4	+15.6	+78.0
Total Unemployment	59.9	61.7	100.9	-1.8	-41.0
Rate	4.1	4.2	7.2	---	---
Rate (Sea. Adj.)**	4.1	4.3	7.3	---	---
Total Employment	1417.5	1400.1	1298.5	+17.4	+119.0

THE ABOVE LABOR FORCE STATISTICS SHOULD

NONAGRICULTURAL WAGE AND SALARY EMPLOYMENT BY PLACE OF WORK

	Nov.* 1984	Oct. 1984	Nov. 1983	Oct. to Nov.	1983 to 1984
TOTAL WAGE AND SALARY	1187.8	1172.0	1105.0	+15.8	+82.8
Manufacturing	174.8	173.9	161.0	+0.9	+13.8
Durable Goods	137.5	136.7	125.5	+0.8	+12.0
Stone, Clay and Glass	7.0	7.0	6.5	+0.0	+0.5
Primary and Fabricated Metals	16.3	16.3	14.3	+0.0	+2.0
Primary Metals	7.1	7.0	6.1	+0.1	+1.0
Fabricated Metals	9.2	9.3	8.2	-0.1	+1.0
Machinery	68.9	68.3	63.4	+0.6	+5.5
Other Durable Goods	45.3	45.1	41.3	+0.2	+4.0
Aircraft and Missiles	20.2	20.2	18.6	+0.0	+1.6
Lumber and Wood Products (Except Furniture)	7.0	6.9	7.0	+0.1	+0.0
All Other Durable Goods	18.1	18.0	15.7	+0.1	+2.4
Nondurable Goods	37.3	37.2	35.5	+0.1	+1.8
Food and Kindred Products	8.4	8.4	7.7	+0.0	+0.7
Apparel	5.2	5.1	5.6	+0.1	-0.4
Printing and Publishing	13.4	13.4	12.6	+0.0	+0.8
All Other Nondurable Goods	10.3	10.3	9.6	+0.0	+0.7
Mining and Quarrying	12.9	12.9	14.3	+0.0	-1.4
Copper Mining	9.9	9.9	11.4	+0.0	-1.5
Other Mining and Quarrying	3.0	3.0	2.9	+0.0	+0.1
Construction	96.6	93.8	82.2	+2.8	+14.4
Trans., Communications, and Public Utilities	60.6	60.1	57.2	+0.5	+3.4
Transportation	26.5	26.1	24.0	+0.4	+2.5
Communications and Public Utilities	34.1	34.0	33.2	+0.1	+0.9
Trade	285.9	280.5	265.3	+5.4	+20.6
Wholesale Trade	57.0	56.4	52.8	+0.6	+4.2
Retail Trade	228.9	224.1	212.5	+4.8	+16.4
General Merchandise and Apparel	40.0	38.5	37.7	+1.5	+2.3
Food Stores	36.5	35.5	34.0	+1.0	+2.5
Automotive and Service Stations	26.1	26.1	24.4	+0.0	+1.7
Eating and Drinking Places	78.8	77.9	73.4	+0.9	+5.4
Other Retail Trade	47.5	46.1	43.0	+1.4	+4.5
Finance, Insurance, and Real Estate	70.0	69.7	66.8	+0.3	+3.2
Services and Miscellaneous	266.3	263.5	245.1	+2.8	+21.2
Hotels and Other Lodging Places	28.0	27.8	25.1	+0.2	+2.9
Business Services	58.2	57.1	48.9	+1.1	+9.3
Health Services	67.6	67.2	65.6	+0.4	+2.0
Other Services	112.5	111.4	105.5	+1.1	+7.0
Government	220.7	217.6	213.1	+3.1	+7.6
Federal	40.1	39.9	39.1	+0.2	+1.0
State and Local	180.6	177.7	174.0	+2.9	+6.6
School	111.3	109.5	107.9	+1.8	+3.4

* Preliminary

** Normal seasonal variations have been eliminated to reflect underlying economic trends.

NOTE--Prepared in cooperation with the U.S. Department of Labor,Bureau of Labor Statistics.

Arizona Labor Force and Employment

(in thousands)

MARICOPA COUNTY					PIMA COUNTY				
			-- Amt Change --					-- Amt Change --	
Nov.* 1984	Oct. 1984	Nov. 1983	Oct. to Nov.	1983 to 1984	Nov.* 1984	Oct. 1984	Nov. 1983	Oct. to Nov.	1983 to 1984
943.2	929.8	875.2	+13.4	+68.0	270.3	268.7	259.1	+1.6	+11.2
28.9	29.8	49.8	-0.9	-20.9	10.2	10.9	18.4	-0.7	-8.2
3.1	3.2	5.7	---	---	3.8	4.1	7.1	---	---
3.1	3.3	5.8	---	---	4.1	4.1	7.1	---	---
914.3	900.0	825.4	+14.3	+88.9	260.1	257.8	240.7	+2.3	+19.4

NOT BE USED FOR ECONOMIC ASSISTANCE PROGRAMS.

NONAGRICULTURAL WAGE AND SALARY EMPLOYMENT BY PLACE OF WORK

780.5	767.7	716.7	+12.8	+63.8	216.1	213.8	203.5	+2.3	+12.6
126.5	125.6	116.1	+0.9	+10.4	29.3	29.2	27.3	+0.1	+2.0
101.1	100.4	91.5	+0.7	+9.6	24.3	24.2	22.6	+0.1	+1.7
4.4	4.4	3.9	+0.0	+0.5					
10.4	10.5	9.3	-0.1	+1.1					
55.1	54.6	50.5	+0.5	+4.6					
31.2	30.9	27.8	+0.3	+3.4					
25.4	25.2	24.6	+0.2	+0.8	5.0	5.0	4.7	+0.0	+0.3
5.3	5.1	5.1	+0.2	+0.2					
2.8	2.9	3.2	-0.1	-0.4					
9.9	9.8	9.3	+0.1	+0.6					
7.4	7.4	7.0	+0.0	+0.4					
0.7	0.7	0.7	+0.0	+0.0	2.9	2.9	3.5	+0.0	-0.6
67.4	65.0	57.3	+2.4	+10.1	20.0	19.5	16.2	+0.5	+3.8
39.7	39.2	37.0	+0.5	+2.7	9.0	9.2	8.6	-0.2	+0.4
17.9	17.4	16.2	+0.5	+1.7	4.1	4.2	3.6	-0.1	+0.5
21.8	21.8	20.8	+0.0	+1.0	4.9	5.0	5.0	-0.1	-0.1
196.4	192.2	180.1	+4.2	+16.3	45.8	45.1	44.0	+0.7	+1.8
45.5	45.1	41.8	+0.4	+3.7	6.7	6.5	6.4	+0.2	+0.3
150.9	147.1	138.3	+3.8	+12.6	39.1	38.6	37.6	+0.5	+1.5
26.1	25.1	24.4	+1.0	+1.7	6.9	6.7	6.7	+0.2	+0.2
23.6	22.7	21.9	+0.9	+1.7	5.9	5.7	5.6	+0.2	+0.3
17.0	17.0	15.5	+0.0	+1.5	4.1	4.2	4.0	-0.1	+0.1
50.5	49.7	46.7	+0.8	+3.8	14.2	14.1	13.6	+0.1	+0.6
33.7	32.6	29.8	+1.1	+3.9	8.0	7.9	7.7	+0.1	+0.3
54.8	54.6	52.1	+0.2	+2.7	9.8	9.8	9.6	+0.0	+0.2
182.9	180.1	165.6	+2.8	+17.3	50.1	49.6	47.2	+0.5	+2.9
16.9	16.2	14.9	+0.7	+2.0	4.6	4.5	4.2	+0.1	+0.4
48.3	47.3	40.4	+1.0	+7.9	8.2	8.1	7.0	+0.1	+1.2
46.2	45.9	44.0	+0.3	+2.2	13.6	13.6	13.8	+0.0	-0.2
71.5	70.7	66.3	+0.8	+5.2	23.7	23.4	22.2	+0.3	+1.5
112.1	110.3	107.8	+1.8	+4.3	49.2	48.5	47.1	+0.7	+2.1

-- Prepared by Labor Market Information, Research and Analysis (CPS-MOD, 1/84)

NONMETROPOLITAN COUNTIES LABOR FORCE AND EMPLOYMENT
November 1984 (Preliminary)

	Apache	Cochise	Coconino	Gila	Graham	Greenlee	La Paz
TOTAL CIVILIAN LABOR FORCE*.	14,650	29,450	36,450	13,500	7,600	4,000	4,900
Total Unemployment	1,750	1,850	2,350	1,275	600	275	500
Rate	11.9%	6.3%	6.4%	9.4%	7.9%	6.9%	10.2%
Rate (Seas. Adj.)**. . . .	11.9%	6.2%	6.9%	9.3%	8.2%	6.7%	-INA-
Total Employment	12,900	27,600	34,100	12,225	7,000	3,725	4,400

THE ABOVE LABOR FORCE STATISTICS SHOULD NOT BE USED
FOR ECONOMIC ASSISTANCE PROGRAMS

	Apache	Cochise	Coconino	Gila	Graham	Greenlee	La Paz
TOTAL WAGE AND SALARY. . . .	13,125	22,100	31,500	9,725	4,350	3,125	2,475
Manufacturing.	775	1,750	2,650	1,350	125	325	100
Mining and Quarrying	50	325	50	1,625	50	1,700	0
Construction	1,100	975	1,175	500	125	50	50
Trans., Comm., & Pub. Util..	1,700	1,375	2,150	275	150	50	50
Trade.	1,025	4,575	7,300	1,775	1,225	350	800
Fin., Insur., & Real Estate.	175	625	600	225	125	25	100
Services and Miscellaneous .	3,225	2,600	7,025	1,525	700	100	675
Government	5,075	9,875	10,550	2,450	1,850	525	700

	Mohave	Navajo	Pinal	Santa Cruz	Yavapai	Yuma
TOTAL CIVILIAN LABOR FORCE*.	21,950	24,000	31,050	8,700	30,850	36,825
Total Unemployment	1,600	2,025	2,500	1,200	1,675	3,200
Rate	7.3%	8.4%	8.1%	13.8%	5.4%	8.7%
Rate (Seas. Adj.)**. . . .	7.6%	8.5%	8.4%	12.4%	5.5%	-INA-
Total Employment	20,350	21,975	28,550	7,500	29,175	33,625

THE ABOVE LABOR FORCE STATISTICS SHOULD NOT BE USED
FOR ECONOMIC ASSISTANCE PROGRAMS

	Mohave	Navajo	Pinal	Santa Cruz	Yavapai	Yuma
TOTAL WAGE AND SALARY. . . .	15,325	16,850	23,775	7,400	17,325	23,975
Manufacturing.	2,200	1,825	3,000	900	2,100	1,775
Mining and Quarrying	250	1,100	3,850	25	325	50
Construction	950	625	650	225	1,050	1,700
Trans., Comm., & Pub. Util..	925	1,600	1,050	575	875	1,025
Trade.	4,450	3,000	4,025	3,000	4,575	7,675
Fin., Insur., & Real Estate.	725	275	750	225	725	800
Services and Miscellaneous .	2,775	3,925	2,125	1,075	3,150	4,350
Government	3,050	4,500	8,325	1,375	4,525	6,600

*Adjusted to the Current Population Survey (CPS) to reflect place of residence.
**Seasonal adjustment not applicable for economic assistance programs.

NOTE--Series for Yuma and La Paz counties start January 1983. Data are not comparable to any past series.

Prepared in conjunction with the U.S. Department of Labor, Bureau of Labor Statistics.

ARIZONA LABOR FORCE AND EMPLOYMENT FOR ECONOMIC ASSISTANCE PROGRAMS

September 1984 (Final)

County	Civilian Labor Force	Employment	Unemployment	Rate
Statewide	1,421,821	1,364,637	57,184	4.0%
Apache	14,029	12,776	1,253	8.9
Cochise	28,569	26,952	1,617	5.7
Coconino	36,360	34,490	1,870	5.1
Gila	13,414	12,241	1,173	8.7
Graham	7,287	6,756	531	7.3
Greenlee	3,883	3,661	222	5.7
La Paz	4,810	4,276	534	11.1
Maricopa	904,474	876,858	27,616	3.1
Mohave	22,006	20,577	1,429	6.5
Navajo	23,569	21,878	1,691	7.2
Pima	260,675	251,197	9,478	3.6
Pinal	29,486	26,796	2,690	9.1
Santa Cruz	8,420	7,225	1,195	14.2
Yavapai	29,839	28,230	1,609	5.4
Yuma	35,000	30,724	4,276	12.2

These figures are the only official BLS labor statistics to be used for revenue sharing purposes. They are not designed to be used as economic indicators. Note: Series for Yuma and La Paz counties start January 1983. Data are not comparable to any past series.

ESTIMATED HOURS AND EARNINGS OF PRODUCTION WORKERS IN SELECTED INDUSTRIES IN ARIZONA

November 1984

INDUSTRY	AVERAGE WEEKLY EARNINGS			AVERAGE WEEKLY HOURS			AVG. HOURLY EARNINGS		
	NOV.* 1984	OCT. 1984	NOV. 1983	NOV.* 1984	OCT. 1984	NOV. 1983	NOV.* 1984	OCT. 1984	NOV. 1983
FOR THE STATE OF ARIZONA*									
Manufacturing	376.18	372.50	378.40	40.8	40.8	41.4	9.22	9.13	9.14
Aircraft & Missiles	INA	INA	518.25	INA	INA	44.6	INA	INA	11.62
Food & Kindred Products	313.43	310.87	327.85	40.6	39.4	41.5	7.72	7.89	7.90
Primary Metals	510.86	491.25	474.77	41.0	39.3	39.4	12.46	12.50	12.05
Machinery	322.40	321.12	346.88	40.3	40.7	41.1	8.00	7.89	8.44
Copper Mining	572.98	560.77	521.43	42.1	41.6	39.0	13.61	13.48	13.37
Construction	427.78	428.35	431.06	36.5	36.8	36.5	11.72	11.64	11.81
Utilities	541.68	541.68	544.32	43.3	43.3	44.8	12.51	12.51	12.15
Retail Trade**	237.81	235.58	211.15	35.6	34.9	33.2	6.68	6.75	6.36
Wholesale Trade	363.65	359.60	351.34	38.4	39.3	39.7	9.47	9.15	8.85

* Preliminary

** Excludes eating and drinking places.

NOTE--These estimates are based on a sample of full and part-time production and related employees whose payroll and hours are reported for the pay period which includes the 12th of the month. Prepared in cooperation with the U.S. Department of Labor, Bureau of Labor Statistics.

--Prepared by Labor Market Information, Research and Analysis (1972 SIC, 1/84)

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ARIZONA UNEMPLOYMENT INSURANCE ACTIVITIES - OCTOBER 1984

	OCTOBER 1984	SEPTEMBER 1984	OCTOBER 1983	% Change From 1 Year Ago
Arizona Claimants Served*	21,848	26,640	35,749	-38.9%
Arizona Average Weeks Unemployed**	10.7	10.7	9.3	+15.1
Arizona Benefits Paid*	$ 7,141,414	$ 7,837,731	$ 10,249,204	-30.3%
Arizona Trust Fund Balance	$236,849,244	$225,830,260	$168,585,487	+40.5%

*All Programs **UI Only

NEW LMI PUBLICATIONS

Two popular LMI publications have been revised and are available upon request. The Job Seekers' Guide to Arizona is designed primarily for the out-of-state job seeker contemplating a move to Arizona. It contains valuable community information including the cost of living, availability of housing, educational facilities, climate and general labor market information. In addition, the publication includes names of other organizations the job seeker may want to contact prior to arrival, or after the move.

Arizonal Licensed Occupation Requirements has been updated to reflect the many changes in state occupational licensing requirements that have taken effect since the publication was last issued in 1980. The publication is arranged alphabetically by occupational title. (In Arizona, approximately 90 occupations require licenses.) Following each occupation is the name of the licensing authority, its address and telephone number, and examination and licensing information.

Single copies of these publications may be obtained by writing: Labor Market Information Publications - 733A, P. O. Box 6123, Phoenix, Arizona 85005. Multiple copies may be purchased for the cost of the printing.

ARIZONA'S GROWING INDUSTRIES

The accompanying table lists industries which have had growing employment levels from 1978 through 1984 in at least one of Arizona's counties. To determine which industries are growing, multiple data sources were used, including Unemployment Insurance data, Current Employment Statistics data, and local and state periodicals. A seven-year span was chosen in order to negate the effects of the business cycle.

The industries that are growing in the greatest number of counties are eating and drinking places (retail trade), medical and other health services, electrical machinery manufacturing, and printing and publishing manufacturing. The diversity--trade, services, manufacturing--is an indication of a healthy economy in Arizona. However, six rural counties (Apache, Gila, Graham, Greenlee, La Paz and Pinal) have no growing industries and four counties (Cochise, Navajo, Santa Cruz and Yuma) have only one growing industry. It is clear that considerably more industries are growing in the urban counties--21 in Maricopa and 15 in Pima.

Lists of occupations associated with each of these growing industries are included in the new edition of our Annual Planning Information publication. To request a copy, please write: Labor Market Information Publications - 733A, P. O. Box 6123, Phoenix, Arizona 85005.

Barbara Keene

ARIZONA'S GROWING INDUSTRIES
1978-1984

INDUSTRY	COUNTY
All Other Durables Manufacturing	Maricopa, Pima
Amusement and Recreation Services	Maricopa
Automotive Repair Services	Maricopa, Pima
Business Services	Maricopa, Pima
Chemicals and Allied Products Manufacturing	Maricopa
Communications and Public Utilities	Maricopa, Mohave
Construction	Pima
Eating and Drinking Places (Retail Trade)	Cochise, Maricopa, Mohave, Pima, Yavapai
Educational Services	Maricopa
Electrical Machinery Manufacturing	Maricopa, Pima, Santa Cruz
Fabricated Metals Manufacturing	Pima
Finance, Insurance, Real Estate	Maricopa, Pima
Food Stores (Retail Trade)	Maricopa, Yuma
General Merchandise and Apparel (Retail Trade)	Mohave
Hotels and Other Lodging Places (Services)	Maricopa, Pima
Legal Services	Maricopa, Pima
Medical and Other Health Services	Coconino, Maricopa, Mohave, Navajo
Miscellaneous Services	Maricopa, Pima
Other Retail Trade	Maricopa, Yavapai
Personal Services	Maricopa
Printing and Publishing Manufacturing	Coconino, Maricopa, Yavapai
Services (Non-Profit Organizations)	Pima
Special Trades (Construction)	Maricopa, Pima
Transportation Equipment Manufacturing	Pima
Transportation, except Railroads	Maricopa
Wholesale Trade	Maricopa, Pima

Manufacturing - Varian Associates Inc., the Palo Alto, California-based high technology firm, has opened a new electronics assembly center in Tempe designed to assemble and test printed circuit boards for 14 of the company's 21 divisions that produce systems and components for the defense, medical and communications markets. The 55,000-square-foot plant has a current staff of 10 but will eventually employ 250 people when it reaches full operation in 1987. Of the 240 people to be hired, according to a company spokesman, 100 will be engineers and technicians and the rest will be hourly assembly people.

Gates Learjet Co., which has recently laid off 400 of its Tucson workforce, has made special efforts to help the discharged employees find jobs with other companies. As a result of these efforts, including an "outplacement job fair," some 175 ex-employees have found full-time jobs. Of that number, 110 left Tucson for employment and 65 are working in Tucson. The majority of the 400 persons laid off at the airplane manufacturing plant were sheet metal workers. Another large category was electronic technicians and assemblers.

Mining - About 100 copper miners have returned to work at reduced wages despite a continuing strike at the Anamax Mining Co.'s Twin Buttes Mine. The strike by about 350 production workers began August 1, 1983, over terms of a new contract. The mine has operated during the strike with a work force of salaried employees. The 100 recalled workers will replace 187 salaried employees being laid off as Anamax curtails production.

Communications - Continental Telephone Co., which provides telephone service to towns in the White Mountain area and markets communication systems throughout the state, plans to consolidate its Phoenix-based Mountain Division with its Northwest Division in Bellevue, Washington, resulting in the relocation of about 50 employees. Other employees will be transferred to the company's Show Low office, with a current staff of 200. The consolidation is expected to be complete by March 1985.

Hotels - The Radisson Hotel Corp. plans to develop four hotels in Arizona within the next year. Two hotels are planned for Tucson, one inn-type hotel will be built in Yuma and negotiations are under way for building a hotel along the Camelback corridor in Phoenix. Radisson recently opened a hotel in downtown Mesa which will employ about 240 people.

Public Order and Safety - The state Corrections Department will begin building a 650-bed prison in Winslow this year that will provide about 350 jobs, most of which will probably go to Navajo County residents. The prison is expected to open in 1986.

The Tucson City Council has approved the hiring of 25 police officers. According to the police chief, the 25 officers will be "overhires" that will provide a means of filling vacancies and keeping pace with population growth from anticipated annexations.

Layoffs - Diamond's Department Stores, recently acquired from Dayton Hudson Corp. by Dillard Department Stores, has laid off 32 of the approximately 600 employees at Diamond's headquarters in Tempe. The cutbacks affected employees in the auditing, financial-planning, credit and accounting departments. No cutbacks were made at Diamond's stores, which employ about 2,900 people.

Terak Corp., a Scottsdale computer-graphics manufacturer, has laid off 23 salaried employees. Sixteen of the employees worked on the creation of a new product line which is now complete. Terak's computer-graphics systems are designed for computer-aided design and drafting.

Phoenix-based U-Haul International has cut management salaries by 10 percent to meet demands of its creditors and eliminated holiday bonuses for its 10,000 full-time employees. About 4,000 management personnel will be affected by the salary cuts, including 500 based in Phoenix.

Indian Jobs Program - The Navajo Tribal Council has agreed to establish a jobs program that would spend more than $10 million for reservation communities to create jobs in their areas. The money for the program would come from anticipated revenues from a Utah International coal-contract renegotiation approved by the council. Approval by the coal company's clients and the Interior Department are also required.

Program Helps Mentally Retarded Find Jobs - Jobs were found in Tucson by 30 of 53 mentally retarded young adults who were among 280 enrolled in a two-year experimental program conducted nationally. The Tucson success rate, 56 percent, was greater than in any other city where the program ran. Participants found jobs in housekeeping, laundry, woodwork, electronic assembly and food preparation. The program is continuing in Tucson through federal job training partnership financing and is operated by the Arizona Training Program office of the Developmental Disabilities Division of the Arizona Department of Economic Security. DES will accept 20 more mentally retarded young adults into the program in the first six months of 1985.

Apprenticeships - The Arizona Operating Engineers will begin accepting applications January 2 for entrance to its joint apprenticeship and training system. Applications will be accepted through January 31 from individuals between 18 and 30 years old who have a high school diploma or the equivalent. For additional information, call the Phoenix office at 252-6138 or the Tucson office at 623-2655.

The Phoenix Electrical Joint Apprenticeship and Training Committee for the Electrical Contracting Industry is accepting applications for its inside wireman and residential trainee programs. Applicants must have a high school diploma or the equivalent and reside in the Phoenix metropolitan area. Additional information about the programs and applying is available by calling the Phoenix Electrical JATC office at 263-8104.

Education - Maricopa County Community College District officials have projected 3,500 fewer "full-time student equivalents" in the 1985-86 school year than originally expected, probably because of an improved economy. Officials now estimate the equivalent of 27,200 full-time students will attend district community colleges next year, nearly identical to the present figure of 27,141. Economic prosperity has also been cited by Dale Parnell, president of the American Association of Community and Junior Colleges, as the reason for a nationwide plateau in growth among two-year colleges.

GTE Corp., the parent company of Phoenix-based GTE Communications Systems, has selected Arizona as one of six states and the District of Columbia to participate in the $800,000 GTE Corp. Growth Initiatives for Teachers fellowship for 1985. The program provides funds for professional development and school enrichment opportunities to outstanding mathematics and science teachers in grades 7 through 12.

The Defense Department has chosen Carnegie-Mellon University as the home of a new computer-software institute. A consortium of 10 colleges, including Arizona State University, will constitute the Software Engineering Institute. ASU anticipates receiving several million dollars for research over the next five years as a member of the consortium.

The Phoenix Elementary School District is expected to cut at least 50 of its teachers and staff next year. Most of the reductions in staff will not affect certified teachers but will target custodians, attendance workers, bilingual-education aides, librarians and other non-certified workers. An additional 100 employees, including assistant principals, teachers and school nurses may also have to be laid off if a proposed budget override fails.

Correction - The number of Arizona Unemployment Insurance claimants served in September 1984 has been revised to 26,640. The figure originally printed in last month's Arizona Labor Market Newsletter was 29,640.

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ARIZONA LABOR MARKET INFORMATION NEWSLETTER

Vol. IX No. 2
February 1985

Unemployment Rate

Seasonally Adjusted
December*

ARIZONA	4.5%
Maricopa Co.	3.4%
Pima Co.	4.1%
UNITED STATES	7.2%

Consumer Price Index

National-November
1967 - Base Year

Wage Earner/Clerical Worker - 311.9
% Chg. Yr. Ago 3.5

All Urban - 315.3
% Chg. Yr. Ago 4.0

Phoenix-4th Qtr.
1977 - Base Year

All Urban - 184.4
% Chg. Yr. Ago 5.9

Producer Price Index

National-December*
1967 - Base Year

All Commodities-309.9
% Chg. Yr. Ago 1.2

Finished Goods -292.4
% Chg. Yr. Ago 1.8

* Preliminary

COUNTY PLANNING PRODUCES RESULTS

A remarkable metamorphosis is taking place in Arizona occupational education as a direct result of countywide planning processes mandated by the Arizona Legislature. County planning groups studied employer needs and economic development in their counties, inventoried occupational training programs countywide and identified opportunities to work cooperatively. High schools and community colleges are sharing facilities, equipment and instructors to avoid duplication and offer training more cost-effectively. High school and community college teachers are developing common occupational course competencies to enable students to continue their educations without repeating major course content.

These and many other activities are occurring as a direct result of Senate Bill 1106, the Arizona Vocational Education Act of 1982. The Arizona Legislature directed community college districts to form and coordinate the activities of county planning groups. The planning groups were to determine labor market needs, assess training programs, develop guidelines for student transferability, identify opportunities to work cooperatively and eliminate duplication, and develop methods of determining funding priorities. Five-year and annual plans were to be developed for use as local management tools.

Only Maricopa and Pima counties were required by the legislation to form countywide planning groups involving secondary schools, community colleges, proprietary schools, employment and training providers and business/industry. Nevertheless, every

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JoAnn H. Wilson, editor

county formed or joined a county planning group. Currently, 10 planning groups composed of 14 of the state's 15 counties are operational. Over 400 people participated in county planning or its related activities during 1984. The planning groups completed vocational education county plans and made remarkable progress in implementing their 1984 objectives.

For example, administrators are taking the labor market information received in the planning groups back to their own institutions to use for internal planning and to share with faculty and counselors.

Secondly, Arizona's community colleges and high schools are working together to mesh their programs so that students can continue their educations without repeating major course content. Faculty members from the participating institutions meet several times to develop a common set of competencies for corresponding courses. This will facilitate student transfers and advanced placements.

One of the most exciting outcomes of countywide planning is the upswing in the number of cooperative ventures triggered by the planning efforts. Participants found many ways to pool their resources by sharing facilities, equipment and instructors; cooperatively offering workshops and projects and by cooperating with business/industry to meet training needs. The following examples are representative of the kinds of cooperative efforts that are occurring.

- Both high school and community college students are attending occupational classes at the Deer Valley Vocational Center taught by Glendale Community College faculty. Equipment from both institutions was pooled for instructional purposes.

- The casino industry's needs for more electronic gaming equipment repairers is being met as a result of a cooperative project in Mohave County. The casinos trained and hired the workers. Two firms loaned gaming equipment and a casino provided the use of a room to simulate the gaming industry. Mohave Community College, Mohave Educational Services Cooperative, the Arizona Department of Economic Security, the Arizona Department of Education and the Arizona Center for Vocational Education all provided resources or made other contributions to the project.

- An in-class survey of nearly 5,000 students enrolled in secondary and postsecondary vocational courses was conducted by a Pima/Santa Cruz planning council subcommittee. Its objectives were to determine why the students were enrolled in their respective courses, how many were seeking employment and how they evaluated their courses. The subcommittee will be conducting a follow-up study to determine what happens to these students after they leave school.

Yavapai College and Prescott High School formed a joint business/education advisory council.

- Planning group coordinators and/or group members in several counties (Coconino, Cochise, Maricopa, Mohave, Pima, Santa Cruz and Yuma) participated in local economic development activities.
- Central Arizona College and Apache Junction schools are sharing computer hardware and software.
- Several community college districts provide training for Job Training Partnership Act (JTPA) clients and dislocated workers. Some secondary districts also conduct JTPA training.
- Apache County secondary administrators planned and conducted a two-day in-service training program for their school administrators and vocational teachers.
- Program evaluations were conducted in Coconino County secondary school districts by evaluation teams consisting of local business/industry representatives and educators. Feedback was provided to school administrators and vocational teachers.

This planning process has taken place without additional financial resources and incentives. Participants have used their present resources to cover the travel expenses, time away from regular duties, hiring of substitute teachers and coordination activities.

Nevertheless, the planning participants believe that the cooperative working relationships fostered by the planning process between secondary and postsecondary training providers, between business/industry and educators and between public institutions and proprietary schools have been beneficial and well worth the effort.

Carol LeBlanc
Statewide Coordinator
Occupational Planning

NEW LMI PUBLICATION

The Labor Market Information Directory is a guide to the wide array of socioeconomic, employment and training, and job search information available through Arizona's LMI program. Also included is a listing of other sources of socioeconomic information, both public and private. The materials are arranged alphabetically, and include a general description, geographic coverage and frequency of issue or revision. Single copies of this publication may be obtained by writing: Labor Market Information Publications -- 733A, P.O. Box 6123, Phoenix, Arizona 85005. Multiple copies may be purchased for the cost of the printing.

ARIZONA UNEMPLOYMENT INSURANCE ACTIVITIES - NOVEMBER 1984

	November 1984	October 1984	November 1983	% Change From One Year Ago
Arizona Claimants Served*	22,155	21,848	32,963	-32.8%
Arizona Average Weeks Unemployed**	8.7	10.7	9.9	-12.1%
Arizona Benefits Paid*	$ 7,274,043	$ 7,141,414	$ 10,677,360	-31.9%
Arizona Trust Fund Balance	$242,875,074	$236,849,244	$173,108,109	+40.3%

*All Programs **UI Only

CAFETERIA BENEFITS -- MEETING INDIVIDUAL AND ORGANIZATIONAL NEEDS

Benefits should do just that -- benefit the employee. But traditional fringe benefit programs are designed without regard to individual employee needs. This wastes money for the employer and fails to bring the maximum employee satisfaction and morale for which a benefits package is designed. The solution is a flexible benefits program that allows employees to design their own personalized benefit program.

The Maricopa Community College system has become a leader in the implementation of a flexible or "cafeteria" benefit plan. Introduced over two years ago, the Flex Benefit plan of the Maricopa Community Colleges has been developed through maximum employee participation and is an essential part of the Human Resources program.

SOME STATISTICS ABOUT THE MARICOPA COMMUNITY COLLEGES

Established in 1962, the Maricopa Community College District is the nation's third largest community college system and the largest higher educational institution in the state of Arizona. The seven independently accredited two-year colleges serve more than 68,000 students in credit courses and an additional 55,000 in non-credit courses. The college work force is made up of almost 2,000 full-time employees including 780 residential faculty. Another 1,800 professionals and specialists serve as visiting faculty, teaching part-time during the day, evening and weekends. Eighty percent of the budget at the Maricopa Community Colleges is allocated for human resources.

Innovative human resource programs have been developed by the Maricopa Community Colleges to meet the needs of this diverse work force. From a flexible benefit plan to phased and early retirement to an employee assistance program, Maricopa is constantly on the lookout for new ideas which will allow employees flexibility and provide a more satisfying work environment. By moving beyond the bounds of the conventional, Maricopa has maintained and enhanced organizational vitality. The perception of employee benefits has expanded to include programs in career planning, personal assistance, wellness and a range of other activities that private industry has long recognized as necessary for maximum productivity. The philosophy at Maricopa is that the institution must respond to a continually changing environment and this can only be accomplished through employee input into the planning of new human resource programs. The real success behind human resources programs is that they are employee-driven, or designed and implemented by employees themselves.

RESPONDING TO EMPLOYEE NEEDS

Like many other organizations, the Maricopa Community Colleges traditionally offered employees a fringe benefit package which was considered generous. The standardized package included choice of medical coverage, life insurance, disability insurance and dental coverage, in addition to participation in the state retirement program and worker's compensation. The college district paid fully for benefit coverage for all full-time employees and approximately 20 percent of dependent medical coverage. The employee paid the remaining amount for dependent coverage through payroll deduction. The plan was good, but faced with the rising cost of employee benefits, Maricopa Colleges' human resource planners thought there must be a better way to provide benefits to employees. They challenged a District Insurance Committee, composed of employee representatives from all seven colleges, to investigate innovative benefits plans. After careful research, study of public and private organizations and employee surveys, the Insurance Committee found they could offer a wider choice of benefits without increasing the employer costs by allowing employees to select the benefits they needed. The Insurance Commitee recommended a cafeteria benefits plan offering a menu of non-taxable benefits, taxable benefits and cash, which was piloted in 1981 at one college. Based on success of the pilot and a warm reception by employees who were becoming educated about the costs of fringe benefits, the Flex Benefit program went into effect in July 1982 for almost 2,000 full-time employees and retirees.

DESCRIBING CAFETERIA BENEFIT PLANS

Employers' interest nationwide in flexible compensation and benefits developed in the 1970s in response to the changing demographics of a diverse workforce. While the terms "flexible compensation" and "cafeteria" plans are sometimes used inter-changeably, the two concepts are not identical. Flexible compensation can involve deferred compensation, salary reduction agreements, spending or reimbursement accounts and other arrangements which go beyond the scope of a simple cafeteria benefit plan. The legal basis for cafeteria benefit plans was formed in Section 125 of the Internal Revenue Code by the Revenue Act of 1978. According to the act, under a cafeteria or flexible benefit plan, an employee may choose from a package of employer-provided fringe benefits, some of which may be taxable and others which may be non-taxable. The statutory definition of cafeteria plan included the following elements: a written plan, determined before contributions are made; participants who are "employees" or former employees (retirees); a choice among two or more benefits, taxable and non-taxable; and no provision for deferred compensation except under specific circumstances. The legislation and history of rulings on flexible compensation and cafeteria plans by the IRS are detailed and some decisions have not been made.

The Maricopa Community College District designed a simple cafeteria benefits plan with the name "Flex Benefits." Insurance and service providers were selected through a legal bidding process on regular cycle as in the traditional benefit program. The original Flex Benefit plan consisted of non-taxable benefits (like medical, accident and disability insurance), taxable benefits (life insurance above $50,000) and cash.

SPENDING FLEXIBILITY

The Flex Benefits plan offers an array of insurance and services to allow employees to select which benefits they want to purchase with "benefit dollars" provided by the community college district. The benefit dollars do not mean more money -- they mean more flexibility in spending this employer-allocated amount. Benefits credits are considered a fringe benefit, not a reduction in salary. The amount of the benefit dollars is determined through a "meet and confer" negotiation process for each of the employee categories in the Maricopa college system. The benefit credit amount in the first year of the program was based on the employer-paid cost of employee medical coverage plus approximately 20 percent of dependent health insurance. Inflationary increases in the cost of health insurance premiums and other coverages have set the basis for the yearly increases in benefits dollars, as determined by the two-year meet and confer cycle.

Employees may spend the benefit dollars on options in the benefits menu. If an employee selects only a few options, the unspent benefits dollars may be given back to the employee in each paycheck over the year. This increase in cash is taxable under IRS rulings as additional income. If a full benefit package is selected and the cost of the premiums exceeds the allocated benefit dollars, an employee can opt to pay the difference through payroll deductions. The contributions made by an employee if the amount of benefit dollars is not sufficient is not treated as a salary reduction, but rather as a payroll deduction. This distinction is important in light of pending IRS legislation in regard to salary reduction agreements.

INTRODUCING THE CAFETERIA BENEFIT PLAN

Communication of the Flex Benefit plan continues to be the key to the success of the Human Resource program. In the initial year of the Flex Benefits plan, employee group meetings were held at each college to explain the cafeteria benefit concept. The major communication tools include a yearly Flex Benefits Handbook and a Flex Benefits Election Form which lists the benefits dollars as well as the benefit options and their accompanying premiums. In-house publications and college newsletters were used extensively to introduce the cafeteria benefit plan originally and they continue to be a major contributor in communicating yearly changes or updates in the benefit program. Employee input is achieved through representatives on the District Insurance Committee and decisions of the committee are communicated through minutes and articles in the organizational press. Employees are provided a computer printout benefit verification form which lists their benefit choices and accompanying costs.

In the third year of Flex Benefits, the revised benefits plan includes over 50 options within the categories of health insurance, life insurance up to $155,000, personal accident insurance, dependent life insurance, dental insurance, short-term disability coverage, vision care and a health evaluation service. Additionally, the community college district provides two core benefits -- $5,000 group term life insurance and long-term disability insurance at no charge to the employee. Tax shelter annuities and automobile insurance are available as payroll deduction programs, not as a formal part of the Flex Benefits program.

CHOOSING BENEFITS

In traditional benefit programs, employees receive benefit coverage for themselves and if needed, their families, when they begin employment, and no updates in coverage are necessary unless the employee's family status changes. Under the Flex Benefit plan, a new approach is taken -- employees select their benefits every year. Although this activity requires a great deal of administrative planning and staff time and record keeping, the annual enrollment allows the Flex Benefit plan to be responsive to changes in employee preferences and allows them to more efficiently spend their benefits dollars each year. Because the Maricopa Community Colleges fiscal year runs July 1 through June 30, the annual enrollment occurs before July 1 every year, usually in April.

PICKING UP THE CHECK

The operational budget of the seven-college Maricopa system is almost $91 million. Fringe benefits, including the Flex Benefit program, state retirement, worker's compensation, FICA and unemployement insurance, account for $12.6 million. Of that amount, approximately $4.5 million is directly attributable to Flex Benefits to serve almost 2,000 full-time employees and retirees.

In examining costs of providing benefits, the Maricopa Community Colleges do not spend more to provide benefits under the cafeteria plan than under a traditional benefit plan. The college district has in the past furnished a standard set of benefits at no cost to the employee, as well as a portion of dependent health insurance. Since this employer-provided amount increased out of necessity with increased insurance premiums, the cost involved in giving employees benefits dollars is the same. However, this money is now being used more efficiently to purchase benefits the employees want. Consider the example of dependant health coverage. If the college district increases the benefit package by $1,000 to cover this expense, it would relieve the employee of having to pay it out of pocket, which increases net disposable income by $1,000. Because of taxes, retirement funds or other deductions, this same net $1,000 in new income might cost the institution $1,500 to $1,700 per employee in salary increases. The effect is the same; the cost is less.

WEIGHING THE PROS AND CONS

Administrative and staff costs are increased under a flexible benefit plan if it allows changes or activities each year which will take time and planning to implement. Technological costs for computer support or human resource systems may need to be considered. There may be additional costs involved in preparing promotional materials to explain the change in the benefit program. Overall, the costs incurred are reasonable to design an innovative human resources program to better serve the employee as customer.

The Flex Benefit plan no doubt meets individual employee need better, but the price is increased administrative attention. In deciding if a flexible benefit or cafeteria plan is feasible for a particular organization or public employer, the advantages and disadvantages must be considered.

Points to consider in studying the issue of flexible benefits or cafeteria plans are:

- organizational philosophy on serving employees;
- size and nature of the workforce;
- planning processes already in place which could generate goals and objectives for a flexible benefit program;
- communication modes within the organization to share information with employees and to get feedback;
- degree of employee input into planning processes;
- institutional stance on putting responsibility for benefit choices directly on the employee;
- level of trust between management and labor;
- employee satisfaction with current benefit program;
- budgeting and accounts payable systems to allow flexibility in fringe benefit area;
- budgeting policies to facilitate cash outs or payroll deduction processes;
- computer, automated or technological support available to human resource, personnel, or benefits department;
- legislation from the IRS and other sources concerning flexible benefits or cafeteria plans;
- ability to handle the record keeping involved in yearly or periodic changes in employee benefit selections;
- political climate (for public institutions, the ability to use tax dollars to fund creative, innovative programs for employees).

SERVING EMPLOYEES BETTER

Meeting employee need in light of limited funding in some institutions requires foresight and including employees themselves in planning the human resource programs designed to serve them. One of the best ways to increase employee purchasing power and morale is to allow individually tailored benefit plans. Flexible benefits do much for employees in providing equitable benefits, and they can ease the budgetary strain in years to come. Educating employees about fringe benefit cost and responsibility, coupled with instituting medical cost-containment measures, can ensure a responsive, successful flexible benefit program which can meet individual needs.

For more information on Flex Benefits or other human resource programs at the Maricopa Community Colleges, contact:

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Arizona Labor Force and Employment

December 1984 (in thousands)

	ARIZONA				
				-- Amt Change --	
	Dec.* 1984	Nov. 1984	Dec. 1983	Nov. to Dec.	1983 to 1984
TOTAL CIVILIAN LABOR FORCE	1481.6	1479.4	1406.5	+2.2	+75.1
Total Unemployment	64.6	60.3	95.1	+4.3	-30.5
Rate	4.4	4.1	6.8	---	---
Rate (Sea. Adj.)**	4.5	4.1	6.9	---	---
Total Employment	1417.0	1419.1	1311.4	-2.1	+105.6

THE ABOVE LABOR FORCE STATISTICS SHOULD NOT

NONAGRICULTURAL WAGE AND SALARY EMPLOYMENT BY PLACE OF WORK

	Dec.* 1984	Nov. 1984	Dec. 1983	Nov. to Dec.	1983 to 1984
TOTAL WAGE AND SALARY	1198.7	1189.4	1115.5	+9.3	+83.2
Manufacturing	175.0	174.8	161.7	+0.2	+13.3
Durable Goods	138.0	137.5	126.1	+0.5	+11.9
Stone, Clay and Glass	7.1	7.0	6.5	+0.1	+0.6
Primary and Fabricated Metals	16.3	16.3	14.3	+0.0	+2.0
Primary Metals	7.0	7.1	6.2	-0.1	+0.8
Fabricated Metals	9.3	9.2	8.1	+0.1	+1.2
Machinery	69.2	68.9	63.7	+0.3	+5.5
Other Durable Goods	45.4	45.3	41.6	+0.1	+3.8
Aircraft and Missiles	20.2	20.2	18.6	+0.0	+1.6
Lumber and Wood Products (Except Furniture)	7.0	7.0	6.9	+0.0	+0.1
All Other Durable Goods	18.2	18.1	16.1	+0.1	+2.1
Nondurable Goods	37.0	37.3	35.6	-0.3	+1.4
Food and Kindred Products	8.1	8.3	7.7	-0.2	+0.4
Apparel	5.1	5.1	5.6	+0.0	-0.5
Printing and Publishing	13.4	13.5	12.6	-0.1	+0.8
All Other Nondurable Goods	10.4	10.4	9.7	+0.0	+0.7
Mining and Quarrying	13.1	13.1	14.3	+0.0	-1.2
Copper Mining	10.1	10.1	11.4	+0.0	-1.3
Other Mining and Quarrying	3.0	3.0	2.9	+0.0	+0.1
Construction	95.7	96.4	82.2	-0.7	+13.5
Trans., Communications, and Public Utilities	61.4	60.7	58.0	+0.7	+3.4
Transportation	27.0	26.5	24.8	+0.5	+2.2
Communications and Public Utilities	34.4	34.2	33.2	+0.2	+1.2
Trade	293.2	287.1	271.4	+6.1	+21.8
Wholesale Trade	57.7	57.0	53.6	+0.7	+4.1
Retail Trade	235.5	230.1	217.8	+5.4	+17.7
General Merchandise and Apparel	43.4	40.8	40.5	+2.6	+2.9
Food Stores	37.5	36.8	34.4	+0.7	+3.1
Automotive and Service Stations	26.4	26.2	24.5	+0.2	+1.9
Eating and Drinking Places	79.2	78.7	74.4	+0.5	+4.8
Other Retail Trade	49.0	47.6	44.0	+1.4	+5.0
Finance, Insurance, and Real Estate	70.4	70.0	67.0	+0.4	+3.4
Services and Miscellaneous	268.0	266.5	247.5	+1.5	+20.5
Hotels and Other Lodging Places	28.3	28.0	25.3	+0.3	+3.0
Business Services	58.0	58.1	49.9	-0.1	+8.1
Health Services	68.2	67.6	65.9	+0.6	+2.3
Other Services	113.5	112.8	106.4	+0.7	+7.1
Government	221.9	220.8	213.4	+1.1	+8.5
Federal	40.0	39.9	39.1	+0.1	+0.9
State and Local	181.9	180.9	174.3	+1.0	+7.6
School	112.9	111.3	109.3	+1.6	+3.6

* Preliminary

** Normal seasonal variations have been eliminated to reflect underlying economic trends.

NOTE--Prepared in cooperation with the U.S. Department of Labor,Bureau of Labor Statistics.

Arizona Labor Force and Employment

December 1984 (in thousands)

MARICOPA COUNTY					PIMA COUNTY				
			-- Amt Change --					-- Amt Change --	
Dec.* 1984	Nov. 1984	Dec. 1983	Nov. to Dec.	1983 to 1984	Dec.* 1984	Nov. 1984	Dec. 1983	Nov. to Dec.	1983 to 1984
944.6	944.2	881.5	+0.4	+63.1	273.4	271.1	261.2	+2.3	+12.2
31.4	29.0	46.6	+2.4	-15.2	10.9	10.3	16.6	+0.6	-5.7
3.3	3.1	5.3	---	---	4.0	3.8	6.4	---	---
3.4	3.1	5.4	---	---	4.1	3.0	6.5	---	---
913.2	915.2	834.9	-2.0	+78.3	262.5	260.8	244.6	+1.7	+17.9

BE USED FOR ECONOMIC ASSISTANCE PROGRAMS.

NONAGRICULTURAL WAGE AND SALARY EMPLOYMENT BY PLACE OF WORK

786.8	781.6	724.5	+5.2	+62.3	220.3	216.5	206.8	+3.8	+13.5
127.0	126.6	116.6	+0.4	+10.4	29.7	29.3	27.8	+0.4	+1.9
101.6	101.2	91.8	+0.4	+9.8	24.7	24.3	22.8	+0.4	+1.9
4.5	4.4	3.9	+0.1	+0.6					
10.5	10.5	9.2	+0.0	+1.3					
55.3	55.1	50.7	+0.2	+4.6					
31.3	31.2	28.0	+0.1	+3.3					
25.4	25.4	24.8	+0.0	+0.6	5.0	5.0	5.0	+0.0	+0.0
5.2	5.3	5.2	-0.1	+0.0					
2.8	2.8	3.2	+0.0	-0.4					
9.9	9.9	9.4	+0.0	+0.5					
7.5	7.4	7.0	+0.1	+0.5					
0.7	0.7	0.6	+0.0	+0.1	2.9	2.9	3.6	+0.0	-0.7
66.7	67.3	57.5	-0.6	+9.2	19.8	19.9	16.4	-0.1	+3.4
40.4	39.9	37.6	+0.5	+2.8	9.0	9.0	8.8	+0.0	+0.2
18.3	18.0	16.6	+0.3	+1.7	4.1	4.1	3.8	+0.0	+0.3
22.1	21.9	21.0	+0.2	+1.1	4.9	4.9	5.0	+0.0	-0.1
201.5	197.1	184.7	+4.4	+16.8	47.0	46.1	44.9	+0.9	+2.1
45.7	45.4	42.1	+0.3	+3.6	6.7	6.7	6.4	+0.0	+0.3
155.8	151.7	142.6	+4.1	+13.2	40.3	39.4	38.5	+0.9	+1.8
28.5	26.6	26.5	+1.9	+2.0	7.5	7.2	7.3	+0.3	+0.2
24.3	23.8	22.3	+0.5	+2.0	6.0	5.9	5.6	+0.1	+0.4
17.2	17.1	15.7	+0.1	+1.5	4.2	4.1	4.0	+0.1	+0.2
51.0	50.5	47.5	+0.5	+3.5	14.4	14.2	13.7	+0.2	+0.7
34.8	33.7	30.6	+1.1	+4.2	8.2	8.0	7.9	+0.2	+0.3
55.0	54.8	52.3	+0.2	+2.7	10.0	9.9	9.6	+0.1	+0.4
183.9	183.0	167.9	+0.9	+16.0	50.8	50.2	47.3	+0.6	+3.5
17.2	16.9	15.4	+0.3	+1.8	5.0	4.6	4.3	+0.4	+0.7
48.0	48.2	41.4	-0.2	+6.6	8.3	8.3	6.9	+0.0	+1.4
46.5	46.2	44.3	+0.3	+2.2	13.8	13.6	13.7	+0.2	+0.1
72.2	71.7	66.8	+0.5	+5.4	23.7	23.7	22.4	+0.0	+1.3
111.6	112.2	107.3	-0.6	+4.3	51.1	49.2	48.4	+1.9	+2.7

-- Prepared by Labor Market Information, Research and Analysis (CPS-MOD, 1/84)

NONMETROPOLITAN COUNTIES LABOR FORCE AND EMPLOYMENT

December 1984 (Preliminary)

	Apache	Cochise	Coconino	Gila	Graham	Greenlee	La Paz
TOTAL CIVILIAN LABOR FORCE*.	14,400	29,350	36,125	13,425	7,650	3,875	4,925
Total Unemployment	1,675	1,950	2,750	1,500	600	300	550
Rate	11.6%	6.6%	7.6%	11.2%	7.8%	7.7%	11.2%
Rate (Seas. Adj.)**. . . .	11.6%	6.6%	7.5%	11.1%	8.3%	7.7%	-INA-
Total Employment	12,725	27,400	33,375	11,925	7,050	3,575	4,375

THE ABOVE LABOR FORCE STATISTICS SHOULD NOT BE USED
FOR ECONOMIC ASSISTANCE PROGRAMS

	Apache	Cochise	Coconino	Gila	Graham	Greenlee	La Paz
TOTAL WAGE AND SALARY. . . .	13,075	22,150	31,125	9,600	4,450	3,150	2,500
Manufacturing.	750	1,600	2,625	1,200	125	325	100
Mining and Quarrying	50	325	50	1,625	75	1,700	0
Construction	1,075	1,000	1,200	500	125	75	50
Trans., Comm., & Pub. Util..	1,800	1,425	2,100	275	150	50	50
Trade.	1,050	4,650	7,300	1,800	1,225	350	800
Fin., Insur., & Real Estate.	175	625	600	225	125	25	100
Services and Miscellaneous .	3,175	2,575	6,975	1,525	700	100	700
Government	5,000	9,950	10,275	2,450	1,925	525	700

	Mohave	Navajo	Pinal	Santa Cruz	Yavapai	Yuma
TOTAL CIVILIAN LABOR FORCE*.	21,825	23,850	31,300	8,850	31,325	41,600
Total Unemployment	1,800	2,475	2,800	1,000	2,000	3,475
Rate	8.2%	10.4%	8.9%	11.3%	6.4%	8.4%
Rate (Seas. Adj.)**. . . .	8.2%	10.2%	9.4%	11.9%	6.1%	-INA-
Total Employment	20,025	21,375	28,500	7,850	29,325	38,125

THE ABOVE LABOR FORCE STATISTICS SHOULD NOT BE USED
FOR ECONOMIC ASSISTANCE PROGRAMS

	Mohave	Navajo	Pinal	Santa Cruz	Yavapai	Yuma
TOTAL WAGE AND SALARY. . . .	15,250	16,575	23,975	7,875	17,550	24,250
Manufacturing.	2,100	1,800	2,975	925	2,075	1,800
Mining and Quarrying	250	1,075	3,825	25	525	50
Construction	975	625	625	225	1,000	1,650
Trans., Comm., & Pub. Util..	975	1,625	1,050	575	900	1,050
Trade.	4,350	2,925	4,200	3,425	4,625	8,000
Fin., Insur., & Real Estate.	750	275	750	225	725	800
Services and Miscellaneous .	2,750	3,850	2,150	1,075	3,250	4,400
Government	3,100	4,400	8,400	1,400	4,450	6,500

*Adjusted to the Current Population Survey (CPS) to reflect place of residence.
**Seasonal adjustment not applicable for economic assistance programs.

NOTE--Series for Yuma and La Paz counties start January 1983. Data are not comparable to any past series.

Prepared in conjunction with the U.S. Department of Labor, Bureau of Labor Statistics.

ARIZONA LABOR FORCE AND EMPLOYMENT FOR ECONOMIC ASSISTANCE PROGRAMS
October 1984 (Final)

County	Civilian Labor Force	Employment	Unemployment	Rate
Statewide	1,461,773	1,400,073	61,700	4.2%
Apache	14,310	12,836	1,474	10.3%
Cochise	29,080	27,396	1,684	5.8%
Coconino	36,758	34,570	2,188	6.0%
Gila	13,485	12,169	1,316	9.8%
Graham	7,552	6,962	590	7.8%
Greenlee	3,989	3,717	272	6.8%
La Paz	4,842	4,362	480	9.9%
Maricopa	929,764	899,928	29,836	3.2%
Mohave	22,303	20,697	1,606	7.2%
Navajo	23,872	21,918	1,954	8.2%
Pima	268,722	257,859	10,863	4.0%
Pinal	30,847	28,207	2,640	8.6%
Santa Cruz	8,768	7,403	1,365	15.6%
Yavapai	30,785	29,115	1,670	5.4%
Yuma	36,696	32,934	3,762	10.3%

These figures are the only official BLS labor statistics to be used for revenue sharing purposes. They are not designed to be used as economic indicators. Note: Series for Yuma and La Paz counties start January 1983. Data are not comparable to any past series.

ESTIMATED HOURS AND EARNINGS OF PRODUCTION WORKERS IN SELECTED INDUSTRIES IN ARIZONA
December 1984

INDUSTRY	AVERAGE WEEKLY EARNINGS			AVERAGE WEEKLY HOURS			AVG. HOURLY EARNINGS		
	DEC.* 1984	NOV. 1984	DEC. 1983	DEC.* 1984	NOV. 1984	DEC. 1983	DEC.* 1984	NOV. 1984	DEC. 1983
FOR THE STATE OF ARIZONA*									
Manufacturing	377.81	375.25	385.62	40.8	40.7	42.1	9.26	9.22	9.14
Aircraft & Missiles	INA	INA	566.40	INA	INA	47.2	INA	INA	12.00
Food & Kindred Products	294.84	292.16	325.51	40.5	38.8	41.1	7.28	7.53	7.92
Primary Metals	528.35	510.86	505.60	41.8	41.0	40.0	12.64	12.46	12.64
Machinery	333.66	320.80	347.66	40.2	40.1	41.2	8.30	8.00	8.42
Copper Mining	564.56	572.98	572.90	42.1	42.1	42.5	13.41	13.61	13.48
Construction	405.68	425.22	439.24	33.5	36.5	37.8	12.11	11.65	11.62
Utilities	598.98	598.98	544.32	44.8	44.8	44.8	13.37	13.37	12.15
Retail Trade**	228.74	236.38	207.26	34.5	35.6	32.6	6.63	6.64	6.35
Wholesale Trade	359.29	358.66	343.07	38.8	38.9	40.6	9.26	9.22	8.45

* Preliminary

** Excludes eating and drinking places.

NOTE--These estimates are based on a sample of full and part-time production and related employees whose payroll and hours are reported for the pay period which includes the 12th of the month. Prepared in cooperation with the U.S. Department of Labor, Bureau of Labor Statistics.

--Prepared by Labor Market Information, Research and Analysis (1972 SIC, 1/84)

THE ARIZONA LABOR FORCE IN DECEMBER 1984

While the state's economy continued to expand in December, there are indications that the rate of growth has slowed. The unemployment rate in Arizona jumped from 4.1 to 4.5 percent last month, representing the largest one-month increase in the rate since July 1982. Increases were recorded in 13 of the 15 counties, while rapid growth in the trade sector resulted in lower unemployment for Yuma and Santa Cruz counties. The population of Arizona has grown to the point that the long-anticipated rise in unemployment has occurred. The unemployment rate is expected to go up during 1985 but should remain well below the levels observed during the recession two years ago.

Construction employment dipped by 700 from the record level of 96,400 registered in November. Much of the decline can be attributed to bad weather throughout the state during December rather than weakening market conditions. Many of the jobs lost were with painting, electrical and concrete subcontractors. Uncertainty generated by the prospect of new tax legislation and the future course of financial markets mey keep construction employment from expanding as rapidly in 1985 as it did in 1984, but the outlook for construction in the state remains strong.

Manufacturing employment reached a new record high in December and now stands at 175,000 workers. Nearly 500 jobs were created by Arizona's durable goods producers, but almost 300 jobs were eliminated in the non-durable sector. Most of the reductions were in seasonal food processing facilities in the southern part of the state. Although the high technology manufacturers in Arizona did not add workers as swiftly as they did earlier in the year, they have managed to avoid the massive layoffs seen recently in other states.

Trade activity in December produced mixed results. While retail trade employment continued to rise, the rate of increase was not unusual for this time of year in Arizona. Wholesale trade, however, showed genuine strength, with 700 workers added statewide, many of them in the border counties.

The service-producing sector of Arizona's economy continued to perform well, reflecting the strength seen in this category at the national level. Finance, insurance and real estate companies in the state have added workers steadily and accounted for nearly 400 new jobs in December. Payrolls at hotels and lodging establishments are growing rapidly, especially in the Phoenix and Tucson metropolitan areas. Resorts are opening their doors for business, and new resorts and commercial lodging facilities scheduled to open in the future promise to create even more employment opportunities during 1985.

Looking back, 1984 was a banner year for the economy of Arizona. By November, the last month for which comparative statistics are available, Arizona's unemployment rate was the fourth-lowest in the country, ranking behind Massachusetts, New Hampshire and Vermont. About 100,000 jobs were created during a year when the state's copper industry suffered major setbacks. The Arizona labor force will continue to expand in 1985, but unemployment may rise as job creation proceeds at a slower rate. All in all, the outlook for Arizona is generally bright.

AFDC IN ARIZONA: HOW DO WE COMPARE?

Aid to Families with Dependent Children (AFDC) was established in 1935 by the Social Security Act. The program makes cash payments to needy children as well as to the parent(s), relatives or guardians with whom the child is living who might also be in need. These payments are financed jointly by the federal government and the states. The benefit levels are set by the individual states and are based upon the income, assets and family size of the household. Because each state has some flexibility in setting benefit amounts, there are some disparities among states. How Arizona's benefit level compares to other states is discussed below. Also compared are characteristics such as recipient growth rates, expenditure growth rates and the percent of population receiving AFDC.

In 1982, the latest year for which comparable data are available, an average $4.24 million in AFDC benefits were paid to nearly 62,000 people every month in Arizona. This comes out to $68.45 a month to each recipient, ranking Arizona 41st among the 50 states and the District of Columbia. Nationally, the average monthly payment per recipient was $105.03, with Alaska paying the greatest amount ($220.13) and Mississippi the lowest ($30.79). In fact, between 1979 and 1982, Arizona consistently paid between $30 and $40 less per month than the national average.

Although our state paid below-average benefits, our total expenditure growth rate was well above the national average. In 1982, while the nation as a whole spent 0.7 percent less on AFDC, Arizona's total expenditures grew by 15.6 percent, the highest growth rate in the nation. During the same time period when expenditures were rising rapidly, the total number of recipients was

Avg. Monthly Payment/Recipient

	U.S.	AZ	
1979	$ 90.61	$56.25	(43)
1980	$ 97.57	$62.25	(43)
1981	$ 98.70	$58.33	(43)
1982	$105.03	$68.45	(41)

Avg. Monthly Pct. of Pop. Receiving AFDC

U.S.	AZ	
4.5%	1.9%	(49)
4.7%	2.0%	(49)
4.7%	2.2%	(47)
4.4%	2.1%	(45)

Annual Recipient Growth Rate

	U.S.	AZ	
1980	4.7%	9.7%	(13)
1981	2.8%	17.4%	(1)
1982	-6.7%	-1.5%	(5)

Annual Expenditure Growth Rate

U.S.	AZ	
12.8%	21.4%	(6)
4.0%	10.0%	(12)
-0.7%	15.6%	(1)

Annual Avg. Payment/Recipient Growth Rate

	U.S.	AZ	
1980	7.7%	10.6%	(9)
1981	1.2%	-6.3%	(50)
1982	6.4%	17.4%	(3)

Arizona's ranking from highest to lowest in parentheses.

also expanding quickly. In 1980, 1981 and 1982 Arizona's recipient growth rate ranked 13th, 1st and 5th, respectively, well above the national average. Because both the number of recipients and expenditures were rising rapidly, the increase in the monthly benefit was only $12.20 between 1979 and 1982. Although benefits increased approximately 21 percent in those four years, once inflation is taken into account, they actually declined by 9 percent in real terms.

One factor that might be playing a role in causing the number of recipients in Arizona to rise faster than the national average is our state's strong population growth. In the late 1970s and early 1980s, Arizona's population grew three times faster than the country as a whole. Even though we have been near the top in recipient growth rate, the proportion of the state's population receiving AFDC has remained near the bottom. In 1979, approximately 1.9 percent of Arizonans received AFDC in a given month; this ranked Arizona 49th nationally and was less than the national average of 4.5 percent receiving AFDC per month . By 1982, even with the high recipient growth rates, only 2.1 percent of Arizonans received AFDC per month, ranking the state 45th, still less than half the national average of 4.4 percent. Nationally, Wyoming and Nevada consistently had the lowest proportion of population receiving AFDC, around 1.4 percent, while our nation's capital, Washington D. C., ranked number one with between 10 and 13 percent of the population receiving AFDC benefits.

From the statistics presented above, it is clear that Arizona has consistantly had relatively low AFDC payments. Furthermore, because of our state's low average monthly benefit amount, it is doubtful that people are moving to the state to collect AFDC. Likewise, the rapid increase in the number of AFDC recipients has not been out of line with the state's overall population growth, as illustrated by the relatively stable ratio of recipients to population. Finally, while Arizona has made efforts to increase the benefit amount it pays, the gains that were made have been eroded by inflation.

David Sinclair

NEW DEVELOPMENTS

Construction - Construction has begun on the first phase of a $35 million complex at 24th Street and Highland in Phoenix. Phase I will consist of two four-story buildings on five acres. Plans for Phase II are not yet finalized. The site is the former location of the DeVry Institute of Technology which has moved into new quarters at 2149 West Dunlap Road.

Manufacturing - Penn Athletic Products, the nation's largest maker of tennis balls and racquetballs, is moving its headquarters from Monroeville, Pennsylvania, to Phoenix. The headquarters building, set for completion in April 1985, is being built next to the company's production plant and R & R facility in the 43rd Avenue Industrial Park. Nine key staff members will make the move to Phoenix. The company will be hiring between 20 and 25 administrative personnel beginning this month.

Hughes Aircraft Co., which is already Tucson's largest industrial employer, plans to hire about 500 people in early 1985. Most of the positions are for electromechanical assemblers, with a minimum of six months industrial soldering experience required or certification from a recognized training program. Salary is to start at $4.50 per hour. The hirings will bring the total number of people employed in the Tucson missile manufacturing plant to about 7,000. Additional workers probably will be hired later in 1985.

Mining - Phelps Dodge Corp. has closed its Morenci smelter, affecting some 450 hourly workers who were hired after 13 unions went on strike in July 1983. The company is accomplishing the closure with a combination of layoffs, early retirements and shifts to other company operations. The cost of complying with federal clean air laws has been cited by company spokesmen as the reason for the shutdown. Prior to the closure, Phelps Dodge employed about 1,850 people at the complex, including about 1,400 hourly workers.

Finance - Pima Savings & Loan Association, with headquarters in Tucson, plans to open 15 branches in the Valley in the next five years. The S&L has 23 other offices, most of them in southern Arizona.

Los Angeles-based First Interstate Bank of California plans to cut as many as 875 jobs, or about 7 percent of its California work force. A spokesman for First Interstate Bank of Arizona, which is affiliated with First Interstate Bancorp but operates independently, has stated that the California reductions will not affect the Arizona bank and that First Interstate of Arizona anticipates additions to its staff this year.

Hotels - American Continental Corp. has purchased the Phoenician Golf and Racquet Club for $20 million and plans to build a massive $150 million resort hotel on the site. In addition, the Phoenix-based home builder has announced plans to build two other hotels -- a 300-room business traveler's hotel in Phoenix which should be complete by Christmas 1986, and a 125-room luxury inn in Tucson set for completion, in mid-1986. Construction on the Phoenician project will begin this summer, with completion expected in time for the 1986 winter season.

Government - The city of Tucson has been accepting applications for 75 to 100 jobs that will become available over a two-year period for garbage collectors, street maintenance workers, groundskeepers and utility service workers. Applications for the jobs originally totalled 3,500; about 850 passed the written test and appeared for the second phase of testing.

Education - The business school at Arizona State University has received a $500,000 grant to form the "Hahn Center for Entrepeneurship." The center will give students hands-on experience in forming their own businesses as well as provide services to individuals in the community seeking entrepeneurial help. A similar center was created last year at the University of Arizona with a grant from Karl Eller, chairman of the Circle K Corp.

A community-college advisory board has recommended the establishment of a nontraditional "community college without walls" in Coconino County. The board supports a form of college that "uses available resources -- business and industry, agencies, public-educational entities -- on a contract basis for services and facilities." Coconino is among five counties in the state that do not have community colleges.

Construction Workshop - A free workshop for minority contractors in the Phoenix area will be held February 15-16. Sponsored by Miller Brewing Co. and a group of community agencies, the two-part workshop is designed to help minorities and economically and socially disadvantaged contractors qualify for construction projects. Registration for the seminar is required and can be made by calling Rick Ponce at 261-8748.

Unemployment Insurance - Arizona employers began paying lower UI taxes effective January 1 due to the state's healthy economy and low unemployment rate. The tax, which is based on an employer's payroll, is used by the state to pay unemployment benefits. The 1.83 percent tax rate, down from 1.88 percent, puts Arizona among the states with the lowest tax rates.

Layoffs - Kroy Inc., a Scottsdale-based graphics firm that nearly halved its Midwest manufacturing force December 3, has also laid off about 30 engineering and administrative workers at its Scottsdale facility. Kroy blamed the cutbacks on lower sales and earnings in the last several quarters.

Gates Learjet Corp. has laid off more employees at its Tucson factory where about 400 workers were terminated last fall. Approximately 60 salaried and hourly employees were furloughed, chiefly in the finance, payroll and personnel departments. Few production workers were affected in this round of layoffs.

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ARIZONA LABOR MARKET INFORMATION NEWSLETTER

SPECIAL ISSUE
FEBRUARY 1985

Our readers tell us that the "New Developments" section of the Arizona Labor Market Newsletter is a popular, widely read feature. In this special issue, we reprint the "New Developments" from 1984.

The original sources for this information are many but we rely heavily upon newspapers and economic periodicals. A development which was not reported in these sources might have escaped our attention. Space requirements, too, often limit our ability to include all the information that deserves mention. Nonetheless, it is hoped that this will serve as a convenient summary of many of the significant developments pertaining to the Arizona labor force and economy during 1984.

The entries have been organized, by month, under large general headings. Only those entries announcing conferences or workshops have been deleted.

1984 NEW DEVELOPMENTS

CONSTRUCTION

January - Construction has begun on Arrowhead Ranch, a $1 billion master-planned community expected to house 51,000 residents. Arrowhead Ranch is a 500-acre tract located in Glendale. Developed by the Paloma Corp., a Richardson, Texas, subsidiary of Hunt-Stephens Investments, the project will take 10 years and will include five school and park sites, a convention-resort hotel and a regional shopping center.

The first phase of the $175 million Phoenix Gateway Center has begun. The office, commercial, and hotel complex is being built on the northwest corner of 44th and East Van Buren streets. Total size is 1.5 million square feet.

Planning for the second phase of the project is also underway. The proposed $150 million development will be built on the northeastern corner of the same intersection and will contain the same mix of buildings that make up the Gateway Center. Total size will be smaller, containing 1 million square feet.

Construction of a multi-million dollar Honda motorcycle dealership owned by Coulter Cadillac begins this month in Chandler. The store is expected to open in July.

The first phase of development has begun on Williams Centre, a $500 million, 110 acre commercial office and retail complex in Tucson. The completed project will contain 2.75 million square feet.

Construction has begun on the first of two midrise office buildings to be built on

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JoAnn H. Wilson, editor

Central Avenue in Phoenix. The $42.5 million, 12-story structure is expected to be completed in about one year. The second phase will include a 15-story office building. No construction date has been set for that phase.

February - A 36.7-acre site at the main entrance to Tucson International Airport has been purchased for $5.6 million by Bay Colony Development Co. of Phoenix and Tucson. The land will be the site for the $25 million, 500,000 square-foot Bay Colony Technology Center, an industrial development to accommodate high technology companies. Bay Colony Development Co. is a subsidiary of Bay Financial Corp., Boston. The company opened its first regional office in Phoenix in June.

March - A project to build 580 residential units atop Flagstaff's McMillan Mesa has been proposed by a California group. Plans for the 134-acre development also include commercial and recreation areas.

Planning for AgroCenter Arizona, a $25 million project combining urban development with agriculture, is under way in Eloy. When eventually completed, the project will feature urban residences, a county inn and recreational attractions in a 1,000-acre core area. Surrounding the core area will be an arid lands research project. About 4,000 acres will be divided into 80-acre "farmettes."

Construction has begun on Star Distribution Corp.'s $1.7 million distribution center at Williams Field Road Business Park in Chandler. The 70,000 square-foot structure is the first building in the 65-acre Chandler park.

Plans have been announced for a 46-story, $47 million apartment building in downtown Phoenix. The 694-foot high-rise, planned for the southeastern corner of Fillmore Street and Second Avenue, would be the city's tallest building and the first major residential construction project in the downtown area in many years. The developer is seeking $42.4 million in tax-exempt bonds to help finance the project.

April - Business construction did not enjoy the same upsurge that residential housing did last year, but judging by figures for January, 1984 may be a better year. According to McGraw-Hill Information Systems Co., the value of business construction projects in Tucson during 1983 was $175.9 million, down about 25 percent from 1982's $226 million. In Phoenix, the amount invested was $680.8 million, down 8 percent from 1982's $737 million.

However, in January 1984, the value of business construction projects in Tucson was $14.7 million, up 24 percent over January 1983, and in Phoenix, business construction was valued at $64 million, up 44 percent over the preceding January.

June - Construction will begin this month on the first phase of a $17 million office complex at Cabot, Cabot & Forbes' Civic Center Business Park, between Seventh and 11th streets from Jefferson to Jackson streets in Phoenix. The complex will consist of 148,000 square feet of leasable space.

Griffiths Construction, Inc., a Casa Grande contracting firm formed last year, has established a Phoenix headquarters. A staff of 13 will work at the new office.

Construction began last month on the $30 million second phase of the Scottsdale Financial Center office complex. The 151,000 square-foot structure will be completed in June 1985. The project will emphasize financial institutions, stock and bond brokers and other financially oriented tenants.

July - Freezer Services, Inc. plans to build a 200,000 square-foot service warehouse facility in west Phoenix. Phase I is scheduled for completion by December 1984 and will provide blast freezing, consolidation and distribution services.

August - Preliminary work has begun on a $20 million residential-commerical development project in south Tempe that will include a major shopping mall. The 180-acre tract to be developed is located at 56th Street and Elliot Road, near the Interstate 10 interchange.

A proposed 29-to 31-story resort hotel connected to a mountaintop restaurant by a tram system has received tentative approval from the Glendale City Council. The hotel and restaurant, expected to open January 1, 1987, are part of a Richardson, Texas, firm's plans for a development at Arrowhead Ranch.

Plans have been announced to build a 250,000-square-foot development in downtown Tucson. The $150 million series of buildings will be the city's largest office complex. Construction is expected to begin next spring and take five years.

Goodyear Tire and Rubber Co. and Westinghouse Communities Inc. are considering joint development of a premier community on 12,000 acres near Litchfield Park. The companies are conducting a feasibility study to develop specific plans for the community. The study is expected to be completed by the end of 1984 with first construction two to three years away. Neither company has provided more specifics about the magnitude or cost of the project.

A $2.7 million Biltmore office of the Valley National Bank will be completed in early 1985. The three-story structure is approximately 12,000 square feet.

September - Escon Builders Inc. has begun construction on a Tucson shopping mall that will be used exclusively by factory outlet stores. Partial funding for the $7.5 million mall came from the City of South Tucson under a Urban Development Action Grant, the first UDAG project ever funded by South Tucson. The 150,000-square-foot facility can accommodate up to 35 factory outlet stores, and is expected to provide employment for about 360 employees. Completion is expected early next year.

Construction has begun in Scottsdale on a $19 million high-technology industrial park, the first master-planned high-technology business facility in Scottsdale. Already scheduled to move into the facility when it is completed is Kroy, Inc., a Scottsdale-based firm that will relocate its national new-product research and development center there.

October - Construction has begun on the $100 million Brookview Country Club, hotel and residential development at Bell Road and 115th Avenue in Surprise. The 370-acre development will produce about 150 permanent jobs, plus part-time employment, and will increase the town's tax base by 30 to 40 percent when it is completed in four years.

Construction has begun on the first phase of a $100 million multiuse building complex in Tempe. The Southwest Technology Center on the southwestern corner of Rural Road and Lakeshore Drive will feature three office towers, a hotel and commercial facilities when fully developed.

November - Construction has begun on a $12 million industrial park near Interstate 10 at Ahwatukee. Foothills Tech Plaza will consist of 132,000-square-foot and 40,000-square-foot buildings on 12 acres. The buildings are designed to fit the utility and space requirements of a large high-tech company. The project developer is considering a similar venture in Tucson.

A contract to construct a $7.6 million combat aircraft ordinance loading area at the Marine Corps Air Station in Yuma has been awarded to Maya Construction Co. of Tucson. The project will require one year to complete and could involve up to 150 local workers during construction.

AT&T Communications has announced plans to build an $18 million data-processing center adjacent to the company's existing center on University Drive in Mesa. The expansion, scheduled for completion in summer 1985, will have about 150 employees.

Construction is under way on a 53,000-square-foot shopping center in Tempe. The $550,000 multiuse center, to be called Reflections Tempe, will provide space for retail-specialty shops, restaurants and offices. It is expected to employ about 100 people.

The first phase of a $25 million, high-technology business park in Scottsdale is under construction. The project will have 11 buildings containing a total of about 220,000 square feet. The first phase, consisting of three buildings including one occupied by Motorola, will be ready for occupancy early next year.

MANUFACTURING

January - Liquid Air Corp. has announced plans to build a $14 million air-separation plant in Tucson. The plant, to be completed by 1985, will produce 260 tons of liquid gas a day with capacity to produce more if needed. It will employ 40 persons. Tucson is currently served by Liquid Air's Phoenix plant which makes 170 tons of gases a day. Since the new plant will be more efficient, the Phoenix plant may be mothballed.

A demonstration plant for researching a method of using clay in the production of aluminum will be built in Tucson by Atlantic Richfield Co. and Aluminum Co. of America. The plant will be used to develop technology for producing aluminum chloride from kaolin clay for use in a smelting process that produces aluminum. The new technology will produce a significant energy savings.

Plans call for construction of a demonstration plant at a cost of more than $10 million in 1986 or 1987. ARCO metals presently has 30 Tucson employees and 15 more permanent research and technical workers will be added.

February - Hughes Aircraft Co. will increase employment at its Tucson missile plant by 10 percent in 1984 and 10 percent in 1985, raising the work force to more than 7,200. Most of the growth expected in the next two years will be in production workers, especially those with trades and skills. Increased production of all missiles made by Hughes will account for the 1,200 new jobs. Hughes, the largest private-sector employer in the Tucson area, currently employs about 6,000, a record employment that is up from 5,374 at the beginning of 1983.

The Gott Corp., makers of ice chests, water coolers and other plastic containers, has opened a distribution center and small manufacturing plant in Phoenix. The number of people hired to staff the new facility has not been announced but it was not expected to be large.

McDonnel Douglas Corp. has reached agreement to acquire Hughes Helicopters Inc. for $470 million. The military helicopter producer is based in Culver City, California, with a manufacturing plant in Mesa. The Hughes facility in Mesa now consists of five buildings totaling 532,000 square feet on a portion of a 200-acre site adjoining Falcon field. The plant eventually is to employ more than 4,000 people. According to a spokesman for Sperry, the most important portion of the sale is the electronic firm's aircraft radios. With the acquisition, Sperry is "trying to be a complete supplier" to the aviation industry.

Ponderosa Paper Products may be able to reopen its Flagstaff plant following a recent Superior Court ruling in favor of Ponderosa, which had asked that it not be bound by a 1972 court injunction barring the discharge of effluent into the Rio de Flag. Ponderosa, which manufactured paper products from recycled paper, closed in July following disputes over odor problems. The plant had laid off about 180 employees during the past year.

March - GTE Corp. has announced that it will move the world headquarters of its Communications Systems division to Phoenix from Stamford, Connecticut, and expand its research operations in the Valley. The move will involve relocating about 70 executives to Phoenix and hiring about 160 engineers and technical employees locally by the end of 1984.

The division to be relocated has 29,000 employees worldwide and makes and services systems and equipment for voice, data and video telecommunications. GTE presently employs 600 workers at its Network Systems division in Phoenix and 400 at its Microcircuits operation in Tempe. Both operations are part of the $2.5 billion division that is relocating.

Intel's Chandler plant expects to hire 600 to 800 workers, mostly in engineering and technical-professional fields, during the next 18 months as part of a major expansion of its Chandler operations. Much of the growth will be due to the firm's $35 million expansion, which includes transferring its components assembly test operations to Chandler from Intel's headquarters in Santa Clara, California. About 200 employees will transfer from Santa Clara to Chandler by June.

AiResearch Manufacturing Co. has leased a large building at Tucson International Airport and will have up to 500 employees in Tucson by the end of 1984. The firm, a division of the Garrett Corp., has announced that engineers, electronics assemblers, technicians, salesmen, purchasing agents and clerks will be hired this year. The company estimates that it will have 4,000 Tucson employees within a decade.

AiResearch plans to begin building its own plant in Northwest Tucson this spring. The company will manufacture electronic components for the aerospace industry.

April - Microelectronic Packaging Inc., a newly formed Scottsdale electronics and sales firm, has acquired a manufacturing plant in Singapore and now is considering opening a similar plant in the Valley. The firm has completed the purchase of Coors Ceramics Asia-Pacific Private Ltd., which manufactures ceramic products for the semiconductor industry, and is now looking for a building in the Valley so it can establish a plant in which to research, develop and manufacture other products for the electronics industry.

Talley Industries of Arizona Inc. dedicated its $4 million expansion last month. The new facility, called Plant 4, is located at the company's manufacturing complex in northeastern Mesa. By year's end, Plant 4 will have about 35 to 40 employees engaged in the mixing, casting and curing of high energy, solid-propellant rocket motors used in small tactical missiles and ejection seats.

American Airlines has announced an order for 67 twin-engine McDonnell Douglas MD-80 jetlines--with options for 100 more--that could result in orders valued at more than $100 million for Valley firms. This figure includes more than $80 million to Sperry Flight Systems, about $17 million to the Garrett Turbine Engine Co. and $10 million to the Garrett Pneumatic Systems Division of the Garrett Corp.

Revco D. S. Inc. plans to build a $15 million facility in Glendale to manufacture human and veterinary injectable drugs. The new plant will house the operations of Carter-Glogau Laboratories Inc., a Revco subsidiary already in Glendale. Employment at the new 90,000-square-foot plant will be approximately 300 when the project is completed in mid-1985.

Motorola Inc. announced plans to move a 100-employee research lab from Mesa to Austin, Texas, as part of a consolidation of its operation in that state. The MOS Advanced Products Research and Development Laboratory, which has been in Mesa for 10 years, is being consolidated with MOS (Metal-Oxide Semiconductor) headquarters in Austin. According to a Motorola spokesman, the 100 employees are moving mainly because of a new 250,000 square-foot facility that was recently completed in Austin. No other moves away from the Valley are planned.

Austin was chosen last year over several sites (including Phoenix) for the headquarters of the Microelectronics and Computer Technology Corp., a consortium of major American electronics firms that includes Motorola.

May - Several major employers have recently announced plans to build or expand plants in Chandler. The Motorola Government Electronics Group in Scottsdale will begin construction later this year on a 325,000-square-foot facility to house the Communication Division Aerospace Operations. Approximately 1,500 employees, most from the Group's Scottsdale plant, will occupy the Phase I part of the structure scheduled for completion in early 1986.

Intel Corp. will build a $75 million automated-assembly plant in Chandler that will employ 800 new employees, including 600 to be hired locally. The 50,000-square-foot plant will be used to implant silicon wafers into semiconductors and will be the first of its kind in the U. S. This plant is in addition to a $35 million expansion into Chandler announced in January that will bring Intel's components-assembly and testing operations from the Santa Clara, California, headquarters.

Also increasing the size of its manufacturing operations in Chandler is Inertia Dynamics Corp., the Collinsville, Connecticut-based company which designs, engineers and manufactures a line of hand-held, gasoline-powered grass and weed trimmers. Employment, now at 200, is expected to increase to more than 300 during the company's peak production season.

Hamilton Aviation, a Tucson aircraft company, has won a contract with General Motors Corp. to retrofit Convair aircraft with a newly developed propeller-driven motor. These modifications will enable the company to increase its work force by 200 or more, the highest employment level the company has had in its 37 years of business.

Hyde Label, a California corporation, is relocating its regional manufacturing plant and warehouse to Phoenix. It will be the company's main plant in the Southwest. Hyde Labels makes pressure-sensitive labels.

Circuit Research Labs Inc. has moved to a new Tempe location as part of a general company expansion. The manufacturer of audio-transmission control systems will add 10 more employees for a total of 35. The move was made possible, according to company spokesmen, by a 40-percent second mortgage from the Office of Economic Planning and Development's Small Business Revitalization program. Valley National Bank provided a 50-percent first mortgage and the company supplied 10 percent.

Lunn Manufacturing, a Phoenix furniture manufacturer, has begun work on a $3 million plant that will allow it to more than double the size of its operation and work force. Employment will increase to 250 to 300 from 125 when the plant is completed in the fall. The facility is being financed with $2.7 million in industrial-development bonds from Maricopa County.

Arizona's only anhydrous ammonia-fertilizer plant has resumed operations after a two-year shutdown. The Arizona Agrochemical Company plant in Chandler can produce about half of the state's yearly agricultural need for anhydrous ammonia, which is a basic source of nitrogen for crops. The plant closed in 1981 due to high natural-gas prices and cheap imports of anhydrous ammonia, putting about 40 people out of work. A recent decision by the Arizona Corporation Commission enabled the plant to purchase natural gas at a price sufficiently low to resume profitable operation. The cost of natural gas is about 75 percent of the cost of making anhydrous ammonia.

June - Environmental Air Products Inc. may increase its 1,000-member payroll in Tucson by about 200 after completion of a major expansion project scheduled to begin this fall. Environmental Air is a producer of commercial air systems. The $5 million project the company is planning is expected to be financed by $3 million from bond sales, $1.2 million from a city-approved Urban Development Action Grant, and $800,000 from a 1982 bond sale.

A New York-based electronics firm has announced plans to move a portion of its manufacturing facilities to Chandler, creating up to 100 new jobs. The company hopes to be operating by August and will initially employ about 25 workers. The firm, Haraeus Volkert Corp., produces metal lead frames, the small piece of metal to which computer chips are attached. The company plans to be a supplier to Intel Corp. and Motorola, both of which plan major expansions in the Chandler area.

Sundt Products Inc., a subsidiary of the Sundt Corp., is adding 55 workers -- more than doubling its Tucson work force -- to handle a contract to build 36 fiberglass pollution-control mechanisms for Dresser Industries' Fluid-Ionic Systems, in Phoenix. Most of the hirings have and will come from Sundt workers who had been laid off.

American Converters Division of American Hospital Supply Inc. is moving some of its manufacturing from Palm Springs, California, to Tucson. A few managers may transfer and the 50 employees are being given a chance to relocate. An unspecified number of workers will be hired by the company, based in Evanson, Illinois, to make entrance mats and hospital clothing.

ITT Corp. has formed a new division headquartered in Tempe that will manufacture and market the company's new Xtra personal computer. Manufacturing, product planning, research and development, and software development for the division will be located in San Jose, California. Sales organizations for the division, as well as its headquarters, are in Tempe.

Atlantic Richfield plans to build a Tucson manufacturing operation late this year that is to employ about 20 employees with chemical or engineering degrees. The plant would be the only manufacturing facility in the country to produce super-pure aluminas for application in the high-technology and electronic markets. Aluminas production is currently dominated by the foreign market, particularly by France and Japan. ARCO is anticipating a rapid penetration of 25 to 30 percent of that market, which is estimated at $10 million.

July - Tucson-based Burr-Brown Corp. has announced an agreement with Intelligent Instrumentation Inc. of Tucson to pursue the development of a broad line of hardware and software to capitalize on the growing power of personal computers and their increasing use in instrumentation systems for data acquisition, test, measurement and control. Burr-Brown will provide initial funding for the venture, referred to as I3. Also announced was the first new product of the joint effort, the PCI-3000, a modular, flexible system of hardware and software which interfaces easily with personal and professional computers via standard communication protocols.

Steelco, a Southern California-based manufacturer, has begun operations in Casa Grande. The company produces frames for mobile homes, commercial office trailers, recreational vehicles and other types of equipment trailers. The company ultimately expects to hire 30 to 35 people. The majority of the frames that are manufactured in Casa Grande will be shipped to the Phoenix area.

Brush Wellman Inc., producers of ceramic products for high technology applications, is expanding its Tucson production facilities and plans to add 50 to 70 workers by January to its existing staff of 200. Officials of the Cleveland-based company are also considering adding a second additional building in three to four years with maximum employment eventually reaching 400 to 500.

Two wholly-owned subsidiaries of General Instruments located in Tucson -- RF Systems and Jerrold Electronics Corp. -- will be moving their operations to the North Tucson Business Park. The move will create positions for an additional 50 to 60 new employees, with expansion capabilities that will accommodate more than 200 additional employees.

August - The Navy has decided to seek a second manufacturer for the improved version of its Phoenix air-intercept missile, which had been an exclusive product of the Hughes Aircraft Co. plant at Tucson. Hughes has about 6,500 employees at the Tucson plant, with less than 10 percent of its efforts assigned to the Phoenix missile for the Navy. The company has said it is "continuing uninterupted production" of the missile and that it doesn't foresee any curtailment of activities at the Tucson plant or disruption of the workforce.

W. L. Gore & Associates has begun construction of its first facility at the Woody Mountain site in Flagstaff. The facility, to be completed the end of March, is the first of four buildings planned for construction. A second phase -- an industrial park -- also is planned to be situated on connecting state land.

Gore is one of the largest Flagstaff employers with more than 700 "associates" in the area. Medical, electronic, distillation and process development support divisions are presently divided among four owned and two leased facilities. The distillation division is slated for relocation to Florida.

September - Hughes Helicopters has announced a major expansion of its Mesa plant that will boost its Valley work force to 7,000 by 1990. Current employment is 1,400. The company will move almost all of its operations -- corporate headquarters, engineering, production of civil helicopters and science labs -- from Culver City, California, where the 50-year old firm has been based since 1942.

Gates Learjet Corp. will hire more than 180 workers in Tucson over the next several months as the company shifts preliminary assembly on its 20 and 30 series corporate jets from Wichita, Kansas, to Tucson. Until now, the work on the 20 and 30 series has been split between Tucson and Wichita. The new Tucson jobs will pay an average of $10 an hour, adding $4 million to the company's annual Tucson payroll. Gates plans to notify appropriate candidates from among more than 1,500 Tucson workers on furlough since 1982. Gradual outside hiring is to be delayed until at least mid-September.

W. L. Gore & Associates, Inc. is expanding its Electronic Products Division to Phoenix with a new facility at The Pointe at South Mountain. The new plant will be complete in January and will employ about 100 people. Gore has 29 plants throughout the world, including four in Flagstaff. The Phoenix site will be used to manufacture signal-transmission devices for the computer, aerospace, defense and satellite industries, as well as serve as the firm's sales-service support center for electronic-products division for the western third of the United States.

October - The Phoenix manufacturing plant for American Telephone and Telegraph Technologies plans to add 1,000 employees by next summer as it moves toward making all of AT&T's telephone cords and most of its copper communications cables. About 150 people laid off at other AT&T divisions in Arizona already have been hired. A company spokesman has stated that the Phoenix plant already has 5,000 applications from which it will hire.

A subsidiary of a Racine, Wisconsin, company has announced plans to build a new plant at Rio Rico to make touch-key pads used in a wide range of electronic business and consumer equipment. Moxness Products, a subsidiary of Versa-Technologies, said it plans to employ 30 to 35 people when the plant is completed late this year.

Bayliner Marine Corp., an Arlington, Washington, firm with 10 manufacturing plants nationwide, hopes to be in production by January at a new plant at the Kingman Industrial Park. Bayliner plans to build a 30,000-to 40,000-square-foot facility that initially will employ 35 people in the manufacture of fiberglass recreational boats. The plant will eventually employ at least 100.

Employee turnover in Arizona's electronics and information technology companies dipped below the national average in 1983 according to a study by the American Electronics Association. AEA member companies have reported turnover data showing Arizona's rate at 19.3 percent, compared to the national average of 21.4 percent. The San Francisco Bay area, including the Silicon Valley, reported the highest turnover at 27.8 percent. Midwest companies reported the lowest rate at 10.4 percent.

November - A $19 million plant will be built for the Sperry Aerospace and Marine Group at the Arrowhead Ranch development in Glendale. The 225,000 square-foot facility is being constructed for the group's recently formed space systems division. Company spokesmen expect Sperry's Valley workforce to increase from the current 5,500 to between 8,000 and 8,500 by 1988. The payroll and local corporate purchases at that time should total between $400 million and $500 million annually. Governor Babbitt, present at the company announcement, said the Sperry facility is the "most important kind of test center for the Valley and the state" because it "involves not just assembly, but it is a high-tech engineer-oriented research firm."

December - Sperry Corp. has announced plans to close its aircraft drone conversion operations at the Phoenix-Litchfield Airport in June of 1985. Sperry employs about 60 people at the plant where obsolete military aircraft are coverted for use as remotely piloted target drones. The company has said it will try to place the employees at its other Phoenix-area operations.

AiResearch Manufacturing Co. has begun construction in Tucson of a $25 million plant for electronics research, development and manufacture. While employment is expected to reach 4,000 by 1993, present employment at the company's two leased locations is about 380. The company plans to recommence hiring in January and anticipates that employees will total about 800 by the end of next year. According to Frank Washburn, industrial-relations director of the firm's electronics systems division, AiResearch is looking mainly for electronics engineers, computer experts and technicians and employees for "support activities like accounting and payroll."

MINING

January - A two-year, $70 million construction program at Inspiration Consolidated Copper Co.'s smelter in Miami will begin this summer with completion scheduled for 1986. Inspiration Consolidated has recently agreed in principle to become a 50 percent partner in the smelter with Amoco Minerals Co. of Englewood, Colorado. Inspiration, based in Phoenix, will retain primary responsibility for operations. The construction program is designed principally to meet Environmental Protection Agency clean-air standards and to increase capacity.

February - The Cyprus-Bagdad Copper Co. furloughed 150 of its 875 workers in mid-January and reduced production 25 percent. This is the company's first layoff since 1938.

March - The Cyprus Bagdad Copper Mine closed indefinitely on February 11th, idling 550 workers. About 150 employees will continue to work at the mine, producing copper cathodes and providing security and maintenance. The shutdown puts employment of copper miners in Arizona at 12,050, lower than it has been in 25, years excluding periods when many workers in the industry were on strike.

April - Inspiration Copper Company has laid off 95 workers at its Globe smelter operation and is considering additional layoffs later because of the poor copper market and low price. Sixty of the workers were released when the company decided to go from three converters to two because of the lack of concentrates.

The Cypress Bagdad Copper Company's closure on February 11th will result in an estimated annual loss to Prescott of $157,860 in sales tax revenues, or 2.9 percent of the city's annual revenues. Yavapai County officials are unable to predict losses until May, when the Arizona Department of Revenue determines the mine's property tax status. However, Yavapai County Manager Jim Holst estimates that in the worst case, the county could lose approximately $500,000 between severance and property taxes, or three to four percent of the county's general fund.

May - Asarco has closed its Sacaton open-pit mine near Casa Grande, resulting in the layoff of about 190 employees. According to company spokesmen, the closing is due to "exhaustion of copper-ore reserves mineable by open-pit methods." The Sacaton open pit began production in 1974. The company had planned to shift the Sacaton operation to a nearby ore body and mine it by underground methods after the open pit was abandoned but underground preparation was suspended in 1981 because of low copper prices.

Meanwhile, Asarco has permanently recalled about 70 workers at its Mission mine complex 30 miles south of Tucson. The move affected heavy equipment operators and mechanics who were recalled to strip the gravel and rock overlying the ore in order to maintain the normal volume of mined ore delivered to the Mission mill for processing. The recall brought employment of hourly workers at the Mission unit to about 420. Two years ago, before layoffs began, Asarco had 1,130 workers.

June - Pinto Valley Copper Corp. has resumed operations at its open-pit copper mine in Miami, putting about 375 workers back to work. Although copper prices have remained at depressed levels, the company said an agreement with its unions to cut hourly wages by $2 for six months will allow it to restart. The mine had been closed since July 1982, when about 450 people were laid off. The only portions of the operation that have remained in use are two leaching units.

July - The Phelps Dodge Corp. reopened its Ajo smelter with a work force of 115, including 70 to 75 new hires. A scheduled 14-week maintenance beginning July 1 of the Phelps Dodge smelter in Hidalgo, New Mexico, was cited by company officials as one reason for bringing the Ajo smelter back into operation. The Ajo smelter, which recently underwent more than $1 million in repairs to meet Environmental Protection

Agency standards, is expected to remain open after the Hidalgo smelter comes back on line.

Three major copper producers have asked unions leaders to reopen labor agreements. Kennecott, the nation's largest copper producer, is seeking to renegotiate a three-year agreement reached in April 1983. The agreement affects 600 workers at the Ray open-pit mine near Kearny as well as workers in four other states. The company has announced plans to lay off 2,000 of its 4,400 employees in the Utah Copper Division by July 1 unless unions agree to drastic cost-cutting concessions. Apparently, workers at the Ray open-pit mine are not affected.

Union concessions are also being sought by Magma Copper Co., which employs about 2,850 hourly workers at its underground mine in San Manuel, and by Inspiration Consolidated Copper Co., which has about 950 hourly employees.

September - Anamax Mining Co. has proposed virtually cutting in half the pay of striking workers at its Twin Buttes Mine as part of a settlement offer. The offer calls for an hourly pay cut of $5 to $6 an hour to end the year-long strike by 380 workers. The workers used to receive an average of $12.50 an hour.

Work at the Tombstone Exploration Inc.'s gold and silver mines has ceased and approximately 100 employees have been laid off. It is unknown how long the plant will remain closed.

Phelps Dodge Corp. has laid off 500 hourly workers from its New Cornelia Branch in Ajo. The company will continue to operate the Ajo smelter and does not plan any shutdowns in Morenci, Bisbee, Douglas, or Tyrone and Hidalgo, New Mexico. About 380 employees, about 180 of whom are hourly workers, are to continue working at Ajo. Aside from the smelter, employees will work at maintenance shops and the power plant.

Asarco Inc. has suspended open-pit mining at its Silver Bell operation north of Tucson, ending work for about 170 of 243 employees. Company spokesmen point to copper prices remaining "at levels near the lowest in real terms in this century" as the reason for the layoffs. In the meantime, Silver Bell's leaching operations, handled by a handful of production workers, will continue.

October - Another 100 employees at Phelps Dodge Corp.'s new Cornelia branch in Ajo have been laid off, raising to about 600 the number of workers furloughed there in less than three weeks. The latest layoffs included 80 salaried employees, many of them managers and supervisors. A company spokesman said the layoffs are temporary but for an indefinite period.

At the Phelps Dodge silica flux and silver mine between Safford and Duncan, the entire staff of 21 people has been laid off. Reopening the mine will depend on the price of silver, a company official said.

Anti-mine forces in Prescott have succeeded in getting the U. S. Forest Service to draw up a full environmental-impact statement on a land exchange that would provide the Phelps Dodge Corp. with a mill site southwest of town. The mine has been a focal point of controversy in Prescott since May, when the Forest Service said it was nearing agreement with Phelps Dodge on the land exchange.

The Reagan administration has rejected a recommendation by the International Trade Commission that controls be imposed on imports of lower-priced foreign copper. In 1983, Arizona was the largest producer of copper in the U. S., accounting for 67 percent of total output. Other large copper-producing states are Utah, with 14 percent of the nation's output, followed by New Mexico, with 10 percent.

November - The Cyprus-Bagdad Copper Co. has contacted about 350 laid-off miners regarding a possible reopening of the Cyprus-Bagdad copper mine. About 625 miners were laid off in January and February due to the declining price of copper. Cyprus-Bagdad is a non-union operation, so there will be no labor negotiations.

Duval Corp. has announced plans to implement a 15 percent wage cut for all hourly and salaried employees at its Sierrita copper mine near Tucson. An overtime program, mandatory for most workers, will allow workers to maintain their income while increasing production at the mine. Employment at the mine is about 1,000, down from its peak of 2,500 three years ago.

December - Continuing depression in the copper industry forced the layoff of 120 workers in October at Asarco's Mission Mine at Sahaurita. In August, Asarco laid off about 170 workers at its Silver Bell open pit 40 miles northwest of Tucson but staffing at the Mission Mine, the company's lowest-cost producer, remained untouched until October. Most of those laid off were hourly employees. Still working at the mine are 286 hourly and 132 salaried employees.

Anamax Mining Co. has ordered a major reorganization of its Twin Buttes Mine near Tucson that will result in 187 salaried workers being laid off and 100 striking hourly workers being recalled under an imposed contract that will cut wages by $4.50 an hour. The layoffs, to be complete by early next year, are being staggered because the employees are working on projects that will conclude on different dates. When the reorganization is finished, Twin Buttes is to have 100 hourly workers and 88 on salaries. In 1981, Twin Buttes had a work force of 1,100 hourly and 400 salaried workers and produced 260 million pounds of copper. Production at the mine in the past year has been 54 million pounds, and will drop to 30 million pounds next year.

LUMBER

March - The Evergreen Lumber Co. has begun operations on a year-round basis at its Williams facility due to the addition of lumber-drying equipment which permits the plant to remain open instead of routinely closing during the winter. The modifications will increase output from the current 12 million board-feet per year to about 30 million. When a second shift is added early this summer, the company expects to hire an additional 55 employees.

RETAIL TRADE

January - Target Stores will hire 1,300 part-time and 200 temporary employees for five stores that it plans to open around the Phoenix area in February. Another 200 management jobs will be created, for a total of 1,700 jobs. Target is the largest division of the Minneapolis-based Dayton Hudson Corp. It operates 205 discount department stores in 22 stores.

Yuma's J. M. McDonald store has reopened as Babbitts Department Store. As reported in the November Labor Market Newsletter, some 70 employees had been affected by the fall closure. After the purchase, Babbitts hired approximately 60 persons, most of them previous store employees.

The Phoenix-based Circle K Corp. has purchased 960 U-Totem Inc. outlets as the first step in establishing a nationwide chain of convenience stores. The $225 million transaction increases Circle K outlets to 2,180 in 17 Western, Southern and Southeastern states.

April - Texaco Inc. has opened nine new gas stations that offer self-service pumps and convenience stores as part of its long-range plans to broaden its market share in Phoenix. According to a company spokesman, about 80 percent of the gas sold in the Valley comes from self-service pumps.

Meanwhile, the Shell Oil Company has begun phasing out its Phoenix and Tucson service stations and plans to concentrate instead on supplying other companies with gasoline.

June - Mobil Oil Corp. is planning to expand its holdings in Phoenix. The company has agreed to purchase 21 Valley self-service stations from the Pasco Petroleum Co. within the next few months. In December, Texaco Inc. purchased six self-service stations from the Phoenix-based Giant Industries, Inc. The Texaco and Mobil transactions are considered by some industry officials to be the latest moves in a continuing trend toward the domination of the Phoenix-area gas market by major oil companies.

August - Ross Stores, an off-price retail chain, plans to open three stores in the Phoenix area, the first in the renovated Tower Plaza. The other locations will be at Poca Fiesta Mall in Mesa and at 43rd Avenue and Peoria. Ross carries branded merchandise at discount prices.

October - The Sears outlet in Douglas closed after 48 years in business. The store employs a dozen people, but they have been offered other jobs with the company.

December - Walgreen Co. plans to add eight outlets in the Phoenix area during the next two years and four outlets in Tucson by the end of next year. The chain currently has 32 stores in the Phoenix area and 13 stores in Tucson.

K mart has opened a new Phoenix store which is the corporation's third prototype for interior design and new merchandise. First-time changes in K mart stores were made in late 1983 at a Troy, Michigan, store. Upgrading of existing K marts will be completed by 1986, a company official said. The new store employs 130, bringing K mart's Arizona employees to 2.130.

AUTOMOBILES

February - Chrysler Corp. opened its first sales zone in Phoenix on February 1st in an attempt to aggressively market in a five-state area. The new sales zone is designed to help the 91 Chrysler-Plymouth and Dodge dealers in Arizona, Nevada, Utah, New Mexico and El Paso County in Texas with marketing, sales, service and distribution. The Phoenix zone is the third organized by Chrysler in the past year. The others are in Houston and New Orleans. The Phoenix zone headquarters will have a staff of 37 sales, service and administrative personnel.

March - The Ford Motor Co. will begin construction this month of a $500 million assembly plant in Hermosillo, using Mexican labor to assemble a Japanese-designed car for sale principally in the U. S. When production begins in three years, most of the cars will be shipped to the U. S. by train, probably through El Centro, California. Southern Arizona's retail sector, especially, should benefit from the 3,000-worker plant. Additional economic consequences are as yet unclear.

April - A national recruiting company has hired about 55 new-car salesmen and saleswomen for Chevrolet dealers in the Phoenix metropolitan area and other parts of the state. The campaign was part of a nationwide effort to hire 2,000 people for Chevrolet dealers across the nation in order to replenish staffs that had been depleted during the past three years when new-car sales were down sharply.

June - Chrysler Corp. has announced plans to build and operate an auto proving ground in Wittmann, 35 miles northwest of Phoenix. The 3,812-acre, $12 million test site is scheduled for completion in three years and will be available for initial testing within 18 months. The site will be used to test the effects of heat, high altitudes and desert conditions. Employment is projected at 100 by the fall of 1985.

The test site will be the third proving ground operated by a major automaker in Arizona. Ford performs tests near Kingman, and General Motors has a test area south of Mesa.

July - Ford Motor Co. has expressed an interest in opening a second assembly plant in Sonora--this time for air conditioners. The company announced plans in January to build a $500 million auto assembly plant. The proposed second plant would employ 150 to 250 workers, and would cover about 25,000 square feet. The product would be used for Hermosillo compacts and for other Fords.

October - Construction has begun on a $1.1 million Chevrolet automobile dealership in Show Low. Approximately 25-30 people will be employed initially.

WHOLESALE TRADE

February - Construction has begun on one of the largest food distribution and storage centers in Phoenix. The $12 million facility will contain 100,000 square feet of freezer and temperature control space as well as office space for food brokers.

April - Golden State Foods Corp., a California-based food-processing and distribution company for McDonald's restaurants, plans to build a 47,000 - square-foot distribution center in Phoenix. The $2.5 million project will supply 140 McDonald's restaurants in Arizona and surrounding states with food, packaging and operating supplies. The facility, expected to be completed in the fall, will initially employ 40 people.

August - Armour Frozen Foods Division will merge with Banquet Foods Co. of St. Louis to form the world's largest volume manufacturer and marketer of frozen prepared foods. About 20 employees at the Scottsdale facility have been invited to relocate to Missouri and at least 12 are expected to do so. Armour Frozen Foods Division had been owned by the Greyhound Corp. before it was sold to ConAgra Corp. ConAgra also owns Banquet Foods.

December - Golden State Foods Corp. is expanding its Phoenix operations with a new 48,000-square-foot facility. Golden State is the major supplier of beef patties and paper products to McDonald's restaurants in the nation. The new facility will distribute food and paper products to outlets in Arizona, New Mexico, parts of Colorado and Utah, and Las Vegas, Nevada.

TRANSPORTATION, COMMUNICATIONS AND PUBLIC UTILITIES

February - Yellow Freight Systems Inc. will move its regional trucking operations and about 200 jobs from Phoenix to Barstow, California. The Phoenix center currently handles cargo from throughout the country for redistribution to several Western states. The move would make the Phoenix operation a local service, although some trucking from the center still would be done to Tucson and Nogales. The estimated 200 Phoenix employees who will be affected by the move will be offered jobs elsewhere, with most asked to move to Barstow.

May - America West Airlines, the eight-month-old, Tempe-based airline, recently hired 160 customer-service representatives at a salary of $12,000 annually. During the six-to eight-week training course, the representatives will be trained in three areas: flight attendant, airport customer-service desk and reservation attendant. America West, which began operating in August, serves 14 Southwest cities and has 1,000 employees.

July - The three Phoenix-owned airports -- Sky Harbor, Deer Valley and Litchfield -- contributed $4.8 billion to the economy of Maricopa County in 1983 and accounted directly or indirectly for 91,533 jobs with payrolls of $1.5 billion. This is according to a study conducted by Dr. Lee R. McPheters, director of the Arizona State University Bureau of Business and Economic Research. According to McPheters, the primary economic impact of the three airports is 36,613 jobs, a payroll of $604.4 million and total expenditures of $1.9 billion.

August - United Parcel Service plans to build a 450,000-square-foot, 150-truck distribution center in the Price Road Business Park in Tempe. The new center, expected to be completed in 1988, will provide about 150 new full-time jobs and 50 part-time jobs. UPS has not decided whether it will close its 10-truck station at 23rd

Street and Priest in Tempe after the new hub is completed.

Construction will begin soon on KDTU-TV, Channel 18, in Tucson. The transmitter site will be located in the Tucson Mountains east of the city. Plans call for the transmitter to be located in 900 square feet of space in a facility which will be constructed underground. Channel 18 is scheduled to go on the air before the end of 1984.

PRINTING

March - Gannett Co. Inc., the Rochester, N.Y.-based media giant and publisher of the one-year-old USA Today newspaper, is planning to build a printing plant in Chandler. The company has purchased a site on Williams Field Road near Interstate 10 to construct the facility. It is estimated that the plant will have a staff of 131 employees.

December - Casa Grande has been chosen as the site of a $90 million printing plant to be built by Meredith/Burda, a Des Moines printing company. The first phase of construction on the facility will be complete by mid-1986, when it will employ 220 workers. A second phase that will create another 140 jobs is expected to be finished in the first quarter of 1988.

Globe Ticket Co., a specialty printing firm based in Pennysylvania, is opening a printing plant at the Kingman Airport Industrial Park. The facility, the firm's sixth in the nation, will initially employ 35 people. Company officials said they were drawn to Kingman, in part, because of the cooperation of Mohave Community College. The college is training 20 prospective employees with equipment supplied by Globe.

PHOTO FINISHING

April - Berkey Photo Inc., a New York-based photo finisher, plans to open a plant in Phoenix by the end of April. The company expects to hire about 40 people and special skills will not be required. An additional 40 to 45 people will be hired within 18 months. The plant will process and print film for Arizona, New Mexico and western Texas. Currently, Berkey has 18 plants in the U. S.

November - Subiacolor Inc. and Photoworks, both of Phoenix, merged effective November 1. The new firm plans to build a 10,000-square-foot photo-processing lab scheduled to open in December. The number of employees will increase to 40 from the 35 now working for Subiacolor and Photoworks.

FINANCE, INSURANCE AND REAL ESTATE

June - The Chase Manhattan Corp. in New York has filed applications with the U. S. comptroller of the currency to place banks in eight states, including one in Phoenix and one in Tucson. The expansion is made possible by recent interpretations of federal banking laws by regulatory agencies.

Mellon Bank of Pittsburgh has also announced that it has asked the federal government for permission to open consumer banks in several cities, including Phoenix.

December - Arizona's finance, insurance and real estate industry had a gross product of $6 billion in 1983 according to the Bureau of Business and Economic Research in the College of Business Administration at Arizona State University. With a 16.7 percent share of the Arizona Gross State Product, FIRE is Arizona's largest industry, surpassing the trade industry for the first

time in 1983. Gross State Product is the value of production minus purchases of intermediate goods and services. In terms of employment, this sector registered nearly 63,000 people in 1983, placing it as only the sixth largest sector (out of eight) when measured by employment.

Allstate Insurance Co. is moving its regional administrative offices from Rancho Bernardo, California, to Phoenix. The move is expected to be completed before the end of the year and will bring about 40 employees from California to the Valley. As many as 25 new secretaries and claims personnel will also be hired.

HEALTH SERVICES

February - The new Thunderbird Samaritan Hospital opened December 17th in Glendale. Building activity around the hospital includes a psychiatric facility, four medical complexes and an expansion of an existing medical facility, two nursing homes and a neighborhood shopping center. City officials estimate that more than 2,000 jobs will be created in a one-mile area around the hospital.

August - The high turnover rate among nurses at Maricopa Medical Center has declined and stabilized since last year. In July, the hospital had fewer than 30 vacancies among the nearly 500 registered-nurse positions. This contrasts to 95 vacant registered-nurse positions at one time last year when low salaries and the possibility of layoffs prompted the exodus of dozens of nurses from the center.

December - The Mayo Clinic is seeking a Scottsdale location for a satellite facility. A spokeswoman for the clinic, based in Rochester, Minnesota, has said the Arizona operation will be a group practice which will begin with about 20 to 30 physicians.

ADVERTISING

December - Headquarters for the Gannett Outdoor Group, the largest outdoor-advertising firm in North America, are being moved from Phoenix to New York. The shift will affect 22 people in Phoenix, most of whom are expected to move to New York or to other areas in the Gannett company. Other Gannett operations in the Valley will not be affected.

HOTELS

February - Construction began in January on a $5.15 million project by Quality Inns International. Scheduled for completion by October, the new Paradise Valley hotel will employ about 200 workers with some 60 additional staff needed within 18 months after opening.

March - Construction has begun on the 272-room Fiesta Hilton Hotel in Mesa. When completed in December 1984, it will be the largest hotel in the East Valley.

May - Tucson-area hotels and resorts are booking more high-revenue meetings and conventions this year, according to a study by the Metropolitan Tucson Convention and Visitors Bureau. According to figures compiled by the bureau, during fiscal 1983, 18.4 percent of the conventions held were corporate. So far this year, 19.5 percent of the meetings held were corporate with medical meetings up to 13.6 percent from 11 percent last year.

June - The city of Tucson has received a $425,000 Urban Development Action Grant toward the renovation of the Geronimo Hotel. The $2.5 million project to renovate the 53-year-old hotel just west of the University of Arizona is expected to produce about 145 jobs.

Hotel Properties, developer of a nationwide hotel chain, has recently opened Continental Inns in Flagstaff and Tucson.

September - Quality Inns International has begun construction on a new Western regional corporate headquarters in northeast Phoenix, which will also be the international headquarters for the lodging chain's SUNBURST Reservation System. The $4 million center, scheduled for completion by March 1, 1985 will create 250 to 300 new jobs for the Phoenix area.

October - Bisbee's Industrial Development Authority has agreed to sell the historic Phelps Dodge Corp. mercantile building to the Collier-Craft Development Co. for $750,000. Collier-Craft plans construction of a three-story, 60-room hotel on vacant land adjacent to the old Phelps Dodge building. The old mercantile building would become the lobby for the proposed hotel.

November - The Tempe City Council has approved a proposal for a $35 million hotel development on the city's Double Butte property, south of Broadway between Interstate 10 and 48th Street. Opening of the resort hotel is planned for fall 1986. It eventually could have up to 540 rooms.

December - The $20 million Radisson Hotel Centennial has opened on a 4.5-acre site northeast of Mesa's Centennial Hall. The hotel is linked by a walkway to the new city-owned Centennial Hall Conference Center.

RESTAURANTS

April - Carvel recently opened an ice cream store in Tempe, the first of 50 stores the company intends to open across the state within five years. About 35 of these stores will be located in the Phoenix area.

June - Phoenix-based MacDonald Mortgage Corp. has obtained the rights to franchise, build and operate as many as 61 Po Folks Family Restaurants, including 11 in Arizona. Po Folks is based in Nashville, Tennessee, and currently has 104 restaurants, mainly in the South. Nine restaurants will be built in Maricopa County, one in Flagstaff and one in Yuma.

"BEST EMPLOYERS"

October - Best Western International, the world's largest lodging chain, has been named Employer of the Year by the Southwest Project with Industry, an Arizona-based job search training and placement assistance program for disabled persons. The award recognizes Best Western headquarters' continuing efforts to provide employment for the handicapped.

November - Several companies with Arizona operations are listed among The 100 Best Companies to Work for in America, a recently published book written by Robert Levering, Milton Moskovitz and Michael Katz. The authors considered pay, benefits, job security, the chance to move up and "ambience." Qualifying for the top 10 list was Trammell Crow Co., an Arizona developer of office and industrial space. Joining Crow as one of the 10 best companies to work for in America is IBM Corp., a major Tucson employer. Other local firms cited are W. L. Gore & Associates, manufacturers of high-tech aerospace and camping equipment, with four plants in Flagstaff and one under construction in Phoenix; and Intel Corp., the California-based firm with about 2,500 Valley employees.

INMATES HIRED

October - American Rockwool's Casa Grande plant, in an effort to combat a 30 percent turnover rate, has contracted with the Department of Corrections to use 30 minimum security inmates. They will join 90 other employees at Rockwool's insulation manufacturing plant.

NEWSLETTER STARTED

October - The Arizona Film, Theatre and Television Newsletter began publication in

September. Aimed at Arizona performing artists, producers, scriptwriters, directors, stage managers and technicians, the monthly newsletter contains such information as job openings, audition and casting dates, classes and seminars, performance dates and contest and grant details. The publishers hope the newsletter will improve employment conditions for people in visual communications.

TRIBAL DEVELOPMENTS

January - A consortium operated by the Navajo, Hopi and Zuni Indian tribes has been awarded $152,000 in federal job-training funds aimed at helping Indians participate in a four-year, $100 million program for highway improvement and construction in the Four Corners region. U.S. Transportation Secretary Elizabeth Dole said the $152,000 will be used to promote both job-training programs and the development of Indian-owned businesses related to road construction.

An $11.8 million motel and resort-convention center will be built on Yavapai Prescott tribal land. The center is expected to create some 130 full- and part-time jobs, generating a $1 million payroll. The lease agreement guarantees that 30 of the jobs will go to tribal members, providing they are interested and qualified, and that training will be made available. Most of the construction will be financed by industrial revenue bonds. The $1.1 million UDAG funds awarded to the tribe will be loaned to the developer to help defray construction costs.

The Papago Tribe of Arizona has established a construction company using the combined resources of the tribal housing program, the Bureau of Indian Affairs, job training funds and a tribal skill center. The company, which had only three employees in April 1982, now employs a total of 105. It is currently building 21 houses, has an $800,000 contract to build a shopping center and a $3.3 million contract for a new school.

February - First Interstate Bank of Arizona has agreed to loan $37.5 million to the Navajo Tribe to benefit farming operations on tribal land in northeastern Arizona. The loan is one of the largest ever made by First Interstate and will help the tribe to produce more crops and to provide more jobs for Navajos. The loan will let the tribe regain control of its agricultural operations from outside consultants and could lead to similar financial arrangements for other tribal enterprises, such as tourism or mining, according to Tribal Chairman Peterson Zah.

March - The Navajo Tribe is considering developing a resort and marina on the shores of Lake Powell that could cost about $19 million. The site under consideration is Antelope Point, about five miles from Page, where the tribe owns a lengthy section of land near the shoreline. Discussions have begun with the U. S. Park Service, which controls the shoreline itself, and planning is expected to take about one year. The tribe has indicated that it probably would contract for the operation of the resort. Among the groups that has expressed an interest is the Del E. Webb Corp., which operates all the marinas on the lake.

The University of Arizona has been awarded a $651,000 grant to help Indians develop economic self-sufficiency. The three-year grant, awarded by the W. W. Kellogg Foundation, is aimed at assisting Indians in Arizona, Nevada, New Mexico and California in a number of areas, including building projects for business and growing of the oil-producing plant jojoba.

GOVERNMENT

March - According to the Arizona State Retirement System, an unpredictably large number of people took advantage of an incentive program for early retirement last year. Of the 14,700 government workers eligible for early retirement during 1983, 17 percent took advantage of the higher benefits. Similar plans in other states have been utilized by about 10 percent of the eligible employees. City and county workers made up 38 percent of the early retirees, teachers 34 percent and state workers 28 percent.

July - Arizona state government is adding a day-care center at the Capitol Mall for state employees' children. State officials believe that the center will cut absenteeism, boost productivity, improve morale and stabilize health costs. An existing building that is being vacated as several agencies move to another location will be modified to accommodate the center and bids will be sought from private day-care centers to operate the facility.

October - Under newly pased legislation, employers would in many cases have to withhold child support from wages when a parent fell one month behind in making court-ordered payments. The law requires child-support orders issued or modified after October 1, 1985, to permit withholding of wages if a parent becomes delinquent in his or her obligations. Employers could be "held liable to the state for any amount" that they failed to withhold from an employee's paycheck after receiving proper notice from the state.

COURT DECISIONS

June - Promises made in employee handbooks can become part of an employment contract and can limit an employer's ability to fire its workers according to a recent Arizona Supreme Court ruling. However, Vice Chief Justice Frank X. Gordon, Jr. wrote in the 13-page opinion that, "We do not mean to imply that all personnel manuals will become part of employment contracts." He said employers are free not to issue manuals or to warn employees that a manual is not part of their contract and that they may be fired with or without reason.

July - The U. S. Supreme Court has upheld the "last hired, first fired" policy. While union leaders have supported senority as the fairest system of making layoffs, feminists and civil-rights leaders view the ruling as a setback to their efforts. The decision also held that someone who is laid off must prove he or she was an actual and specific victim of discrimination before being awarded back pay or being reinstated.

UNEMPLOYMENT INSURANCE

March - Unemployment tax rates for about 59,000 Arizona businesses will increase an average of 70 percent this year. The average rate employers will pay into the fund will rise to 1.88 percent from 1.05 percent of the first $7,000 earned by a worker. The increases will produce a total of $124 million in 1984 instead of the $66 million that would have been collected under the old tax rates. The increases will help replenish the unemployment-insurance fund, which paid out a record $170 million in 1982 and $132 million last year. Employers will feel the increase in April when the first quarter of 1984 ends and they are asked to pay into the Unemployment Insurance Fund.

EMPLOYER/EMPLOYEE ASSISTANCE

March - A program to divert to an employer the cash welfare grant of an Aid to Families with Dependent Children (AFDC) recipient was begun by the Department of Economic Security on March 1st. Called "The Right Change," the program provides to the employer of an AFDC recipient a cash incentive for a period of six months. DES is conducting the program under a three-year federal grant and has targeted 750 job placements during the first year of operation. For more information, contact Gloria Young, Project Director, at 255-4494.

April - Goodwill Industries of Tucson has received a grant to purchase an instructional program that shows companies how to adjust to newly-hired handicapped workers. The program, known as the "Windmills Program," was developed by the California Governor's Committee for Employment of the Handicapped and consists of 12 half-hour audio-visual training sessions. Goodwill will offer the program to employers, managers, supervisors and any other business personnel.

September - An Interstate Job bank begun by The U. S. Department of Labor makes it possible for states to keep tabs on selected jobs anywhere in the United States, as well as advertise their own hard-to-fill vacancies nationally. Under the program, the states each week ship, by overnight air express, a list of their hard-to-fill jobs to the job-bank headquarters in Albany, New York. The jobs are placed on microfiche, which then are immediately sent back to the states. This process will be speeded up when the Labor Department places the job openings on a national computer network, in about two years.

A new on-the-job training program for veterans will allow employers to put eligible veterans to work with government assistance in defraying training costs. The program will reimburse employers for half of the starting wage of training or retraining veterans up to a maximum of $10,000. The deadline for application for a veteran is February 28, 1985 and for an employer, September 1, 1985. Interested employers and veterans can contact the nearest Job Service office. Employers may also call the Veterans Administration Regional Office at 255-5589 or 241-2721.

December - Twelve of Arizona's 15 counties have been labeled "Labor Surplus Areas" (high-unemployment areas) that should receive preference when federal contracts are awarded. The U.S. Department of Labor has so designated every county except Maricopa, Pima and Yavapai. The designation, which lasts through fiscal 1985, gives employers in the areas preference over other firms when bidding on federal contracts. There are 1,825 such areas nationwide.

EDUCATION AND TRAINING

January - Construction is underway on the new DeVry Institute of Technology complex on the southeast corner of 22nd Avenue and Dunlap. The 120,000 square foot center will accommodate 4,400 students.

February - Grand Canyon College officials hope to begin construction late this month on a 9,000 square-foot arts complex. The $350,000 complex is part of a major expansion program for the Phoenix college. Funds will be raised through donations.

March - The Greenlee County Technology Center opened in late January. The center was cooperatively developed by Clifton Unified Schools and the Greenlee County Job Training Partnership Act to provide training in new fields of technology for JTPA participants and other interested persons and to promote the economic development of Greenlee County. The Technology Center offers course clusters in computers in business, computers in science, computers in industry and secretarial and clerical.

April - A 10-year, $148 million capital-improvement and expansion program, including education centers in the Chandler-Gilbert area, Paradise Valley and Litchfield Park, is being considered by the Maricopa County Community College District. The program is an update of the district's master plan, developed in 1978. Partial financing would come from a bond election, tentatively planned for September. Additional sources are also being considered.

The plan calls for building education centers instead of free-standing colleges in order to keep administrative costs down. According to District Chancellor Paul Elsner, "They will be put on good-sized sites so if enrollment justifies it, they can become full-sized campuses."

Under a plan proposed by a congressional task force, the federal government would establish a voluntary job retraining program, with employers and workers each contributing up to $250 a year. Contributions would stop when $4,000 was accumulated. Laid-off workers would draw on the full amount after a six-month resting period and could use up to $1,000 for costs of relocating.

Under the plan, employers would receive tax deductions amounting to 125 percent of their contributions, and no longer would have to pay a small surtax now required for federal unemployment insurance. Contributions would be invested in high-yield Treasury securities and administered like Individual Retirement Accounts by the unemployment insurance system. Representative Sherwood Boehlert, R-N.Y. chaired the task force which drafted the plan.

May - Glendale Community College dedicated a $250,000 Automotive Technology Complex that is expected to help students keep pace with rapid changes in automotive designs. The dedication coincided with an announcement by GM of a new program to train GCC students and find them jobs with GM dealers. The program -- know formally as the Automotive Service Educational Program -- will begin in August, with about 25 students participating in the first classes.

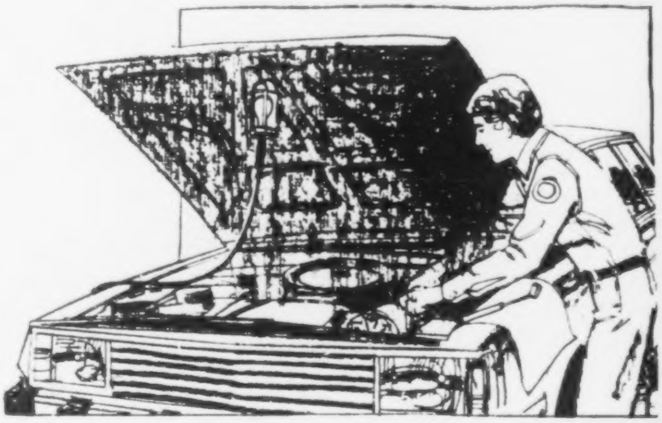
July - The University of Arizona has received funds from private industry and the National Science Foundation to establish a Center for Microcontamination Control. So far, 12 companies have each committed to spending $30,000 annually to establish the national clean-room research center. The center will attempt to develop products with a potential for mass production that can help the semiconductor industry keep dirt and lint from collecting on its products as they are being assembled. The university would share in the profits from any mass production resulting from the research.

Yavapai College in Prescott has received a $500,000 U. S. Dept. of Labor grant to help retrain and relocate miners in Bagdad who are unemployed because of the February closing of the Cyprus Bagdad Co. copper mine there. The grant, provided under the Job Training Partnership Act, will be administered by the Arizona Department of Economic Security and will be subcontracted to the college for operation.

August - The Tucson Job Corps has been awarded another two-year contract by the U.S. Department of Labor. The contract took effect July 1 and contains an option to renew for three years in one-year increments. The Job Corps offers basic educational and vocational training for qualified resident youth. Vocational courses include plumbing, electrical wiring, apartment building maintenance, welding, automotive repair, electronic assembly and clerical skills.

The American Graduate School of International Management has dedicated its new International Conference Center. The center will house classes and offices for Intercom, the Glendale school's international executive-training arm. Intercom offers custom-designed programs for corporate clients ranging from international finance to cross-cultural communications.

September - Nissan Motor Corp. has established a program at Maricopa Technical Community College to train auto mechanics for dealerships in its Los Angeles region. The first training session, begun July 30, was for Nissan employees in the Phoenix and Tucson areas. Although the classes are for selected Nissan employees only, Maricopa Tech also offers automotive courses to the general public.



The Marc Center has opened a 3,000-square-foot vocational center in east Mesa to prepare developmentally disabled adults for employment. The facility was constructed through the use of a $100,000 Community Development Block Grant received through the county. The Marc Center contracts with private companies such as Mountain Bell, and participants are paid as they learn new skills with money received through these contracts.

October - Employees of nine Valley companies are taking college courses through Arizona State University's Interactive Television Program this fall. Classes in business, engineering, physical education and physics are being offered for credit. They are broadcast from ASU classrooms to television monitors at off-campus sites. Participating this fall in the program, which began in spring 1982, are GenRad, Goodyear Aerospace, GTE, Honeywell, Intel, Motorola, Rogers Corporation, Sperry Flight Systems and Unidynamics. For more information about the program, call (602) 965-6738.

The University of Arizona ranked third in the nation in research money received from industry in 1981-82. Georgia Institute of Technology received $11.4 million, Penn State collected $10.5 million and the U of A received $8.6 million. Arizona State University, while not ranked in the report prepared by the U of A's division of institutional research, received $750,000 in donations from industry in 1981-82.

The Lake Havasu Community College Campus Foundation has begun raising money to construct a permanent campus in Lake Havasu City. A 238-acre site has already been acquired.

November - Maricopa County voters approved a $75 mission bond program to improve and expand the Valley's community colleges. Plans include three new community college centers located in Paradise Valley, Chandler/Gilbert and Litchfield Park, and the purchase of land in northeast Mesa and far northwest Maricopa County for potential development after the year 2000.

Technical equipment with an original value of nearly $1 million is being donated by IBM to Arizona State University and the University of Arizona. The equipment will be used for the fabrication of semiconductor circuitry in engineering laboratories at the two schools.

The Bureau of Labor Statistics reports that college graduates continue to have clear labor market advantages over other workers, including a markedly lower unemployment rate, a higher rate of labor force participation and a larger share of managerial and professional jobs. In March 1984, the unemployment rate for college graduates 25 to 64 years old was 2.7 percent, compared with 7.2 percent for high school graduates and 11.6 percent for workers with an eighth grade education or less.

Job recruitment at Arizona State University is 20 percent ahead of the level set last fall as defined by the number of recruiting days scheduled at the campus by companies. According to ASU's Career Services office, there is a demand for graduates in the technical fields, especially from the electronics industry in the Valley.

Portable Practical Education of Tucson plans to open a training center in San Luis for disadvantaged farm workers to provide them with job skills in business and high tech. Similar centers are located in Casa Grande, Ganado and Tucson.

December - Construction has begun on the Samaritan College of Nursing, a $1.6 million nursing-education facility on the campus of Grand Canyon College. Funded jointly by the college and Samaritan Health Services, the structure is scheduled for completion by next fall. Samaritan and Grand Canyon established the nursing program in 1981. There are currently 160 students enrolled.

The University of Arizona has begun work on its $8 million to $10 million Agricultural Center. The 2,100-acre development, to be located in Maricopa, replaces research facilities that the Arizona Board of Regents has decided to retire in urban areas.

CLOSURES AND LAYOFFS

January - A sharp increase in sales-tax collections is providing Maricopa County with unexpected revenue. According to County Finance Director Ray Smith, the increase and a number of resignations at Maricopa Medical Center mean that further layoffs of county employees may not be necessary to balance the budget by the end of the fiscal year.

Since the October decision by the Board of Supervisors to authorize the layoff of hundreds of employees, only 18 have been laid off, according to county records, while more than 200 hospital employees have resigned.

Arden-Mayfair Inc. has closed two Food Giant stores in Tucson, affecting about 15 to 20 employees at each store. According to company policy, employees are laid off on a seniority basis and laid-off employees have recall rights for six months. The grocery chain still has nine Tucson stores and has no plans to close any stores outside Tucson.

February - Diamond's closed its department store in Mesa's Tri-City Mall on January 14th. The store's 108 employees have been transferred to other Phoenix - area locations.

Arden-Mayfair Inc. has closed the Food Giant store at Tucson's El Con Mall. This is the third Tucson supermarket the chain has closed in two months. Company spokesmen have said that no further Tucson closings are planned.

Babbitts Home Center in Williams is closing indefinitely February 19th. The center has served the Williams area since 1947.

Fiesta Market, a sophisticated indoor version of the flea-market concept, closed unexpectedly. Some 200 Phoenix merchants had used the former Woolco store Friday through Sunday each week to sell their goods at discount prices.

Republic Airlines will lay off 160 mechanics as it moves all its heavy aircraft maintenance from Phoenix. About 12 supervisors, five clerical and five management employees will also be laid off. All of the 182 to be laid off will have opportunities for positions elsewhere with Republic, based on seniority. Light maintenance and line maintenance will continue at Sky Harbor with the heavier work consolidated at Minneapolis and Atlanta after February 15th. Slightly more than 100 mechanics will remain at Phoenix, along with staffs for reservations, flight training and operations.

March - Levy's department store has laid off about 25 employees due to a transfer of certain functions from its Tucson warehouse to a distribution center in Dallas. Affected employees will receive a month's pay plus an average of 11 to 12 weeks' severance pay.

Pacific Motor Trucking Co. has eliminated its division which handled freight weighing less than 10,000 pounds. The cutback affected some 16 employees in Tucson and 13 in Phoenix. The division lost at least $12 million in 1983.

April - Kroy Inc., a Scottsdale-based graphics-products company, laid off about 60 contract employees. A company spokesman said that the employees had been brought in for a specific project and that additional layoffs of this magnitude are not expected.

Amstar Corporation's Spreckles Sugar Division has announced the closure of its Chandler operation. Employees to be laid off include supervisory personnel, technicians and mechanics.

Litton Industries Inc.'s electron-tube division in Tempe has laid off 40 workers because of poor orders for its products. The length of the layoff is indefinite and leaves the plant with slightly more than 300 workers. No additional layoffs are expected. The firm manufactures night-vision devices for defense and commercial use.

May - Mountain Bell is laying off employees in three Arizona communities. In Tucson, the equivalent of 75 full-time jobs will be lost. At least 34 workers will lose their jobs and other employees will be shifted to part time. In Phoenix, 80 workers who were brought to Arizona several months ago to help the utility keep pace with new-construction orders have been let go. Cuts are also planned for the Flagstaff office where four positions will be eliminated and 20 reduced to part time. Mountain Bell cites office mechanization and inadequate Arizona earnings for the layoffs.

Mayfair Molded Products, a manufacturer of plastics and boating items, will close its Tucson plant July 1, laying off 55 workers. More competition in the marine-products industry led to the company consolidation responsible for closure of the plant. Some Tucson-plant employees have been offered jobs at the company's headquarters in Schiller Park, Illinois, outside of Chicago.

Three Phoenix-area hospitals, responding to increased competition, a reduction in patients' length of stay and declining revenue, have laid off more than 50 employees.

At John C. Lincoln Hospital and Health Center, about 20 employees were laid off and a total of 84 positions eliminated, mostly in nursing. At St. Luke's Hospital and Behavioral Health Center, 31 full-time workers were laid off. And at Phoenix Baptist Hospital, the education department was moved to the corporate offices with a loss of eight of 15 employees.

June - Cyprus Metallurgical Processes Corp. has laid off 18 employees, nearly half of its 41-member work force. The operation 21 miles from Tucson employed 123 persons before earlier cutbacks. The layoffs affected machine operators, mechanics and administrative personnel.

Three Phoenix-area school districts have announced plans to lay off staff. The Scottsdale School Board has decided not to renew the contracts of 58 teachers, although the district hopes to find jobs for the displaced teachers by the beginning of the 1984-85 school year by filling positions vacated by teachers who retire or resign. In the Deer Valley Unified School District, 39 instructors, mostly elementary school teachers, have received reduction-in-force notices. It is anticipated that some of these teachers will be hired back for the 1984-85 school year. In the Phoenix Elementary School District, 71 teachers and other employees were left without jobs at the end of the recently completed school year. An administrative reorganization and a reduced district budget capacity caused by state spending limits are forcing the layoffs of 35 teachers, two administrators, 28 classified employees and six people in professional non-teaching positions.

July - Ingersoll-Rand has announced the sale of its Tucson unit to Stanley Works of New Britain, Connecticut, which plans to move the operation to Atlanta by year's end, resulting in the loss of nearly 150 Tucson jobs. Some hand tools were assembled at the facility, but it served mainly as the Western states' distribution center for Ingersall-Rand's Proto division. The Tucson center opened in 1975.

Three Arizona terminals of Lee Way Motor Freight Inc. have closed, leaving 38 workers without jobs. The closings are part of a massive cutback by CL Motor Freight of Columbus, Ohio, which acquired Lee Way in May. Thirty workers were furloughed at the Phoenix terminals and eight at the Tucson and Nogales terminals. Besides the Arizona terminals, the company has closed its Las Vegas, Nevada, operations and has scheduled for closing terminals at Albuquerque, New Mexico, Baltimore, Washington, D. C. and Philadelphia.

September - Phoenix Baptist Hospitals and Health Systems has laid off 200 employees at its Phoenix hospital and at 12 affiliated hospitals and companies. The layoffs were blamed on a continuing decline in the number of patients and in the length of hospital stays. A spokesman for the hospital said all 200 laid-off workers received two weeks' severance pay, job-placement services and career counseling.

Sentry Insurance Co. is moving to consolidate and reduce staffing at its four regional offices, including Scottsdale. According to a company spokesman, the move will result in less than 10 percent of the Scottsdale work force's 750 employees losing their jobs. Sentry is providing placement assistance with other companies for affected personnel.

U-Haul International Inc., the nation's largest move-it-yourself company, has announced plans to lay off thousands of workers and reorganize operations to cut costs. An estimated 100 of the 2,000 Phoenix-area workers will lose their jobs and Sam Shien, spokesman for the parent company Amerco, said that employees who still want to work for the Amerco organization probably will be able to reclaim their jobs in about five months.

Rennie & Co., a 2 1/2-year-old Phoenix securities firm, has gone out of business. The company employed 17 brokers in Phoenix.

October - The Evergreen Lumber Company has closed operations in Snowflake, Heber and Williams. The closing, which affected 81 employees at Heber and Snowflake, is expected to be temporary.

November - Gates Learjet Corp. will lay off about 500 employees in Tucson--more than a third of its Tucson work force--and 500 in Wichita, Kansas, because of a halt in some of its commercial aircraft production. According to a company spokesman, the temporary suspension of production of Learjet 30 and 50 series aircraft will continue indefinitely until inventories are reduced. Also, plans to relocate additional aircraft-assembly work from Wichita to Tucson, announced in July, will be deferred.

AT&T Consumer Products has announced plans to trim operations at its Phoenix Service Center as part of an AT&T Technologies Inc. Group cost-reduction plan. The consolidation involves about 700 jobs at four service locations across the country but it is unknown how the Phoenix center's 200 employees will be affected. According to a company spokesman, decisions regarding layoffs or employee transfers have not yet been made. The changes are another step in the August announcements by AT&T Technologies to eliminate 11,000 jobs, improve the use of space, and reduce locations that originally served telephone companies owned by AT&T prior to divestiture.

Sears Roebuck & Co., closed its doors in Douglas, affecting about 12 employees. The peso devaluation was cited as the reason for the closure.

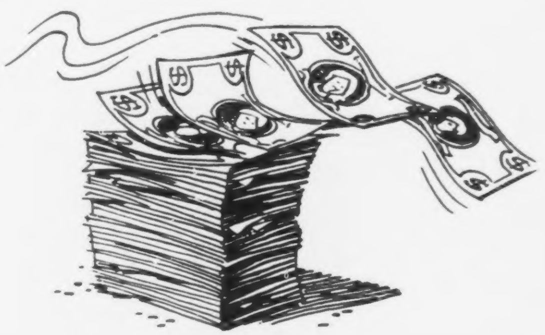
December - Humana Inc. laid off 24 full-time and 19 part-time employees at its two Phoenix hospitals. Hospital officials said all the employees would be offered the opportunity to be placed on an inactive status, which would make them eligible for immediate call-back if the hospital-patient census improves. Employees at the corporation's other 89 hospitals throughout the country were also affected by the October layoffs.

UNIONS

March - Plumbers represented by the 1,900-member Plumbers and Pipefitters Local 469 have agreed to large pay cuts to meet competition from non-union contractors. The contract, which runs through June 30, 1985, covers union plumbers in the Phoenix area and most of the northern part of the state. The new wage for industrial and commercial work is $15 an hour, down from $19.84, a 24 percent cut. For residential work, the rate drops to $12.50 an hour from $19.84, a 37 percent decrease.

For the first time since 1978, pay raises for union workers lagged behind those for non-union workers according to a study by the U.S. Bureau of Labor Statistics. The BLS report found that wages and salaries paid to workers covered by union contracts advanced 4.6 percent in 1983, while the gain for non-union workers was 5.2 percent.

Earlier, the BLS announced that the three million workers whose wages were negotiated by unions in 1983 accepted first-year pay boosts averaging 2.6 percent, the lowest settlements in the 16 years that the government has kept these records.



July - Union electricians have agreed to their second major pay cut in two years. The new rate for electricians on inside commercial construction is $12 an hour, down from $16 negotiated in 1982. Coupled with the reduction to $16 an hour from $17.95 two years ago, union electricians now have agreed to work for 33 percent less than they used to make. The two-year agreement between the union and the Arizona Chapter of National Electric Contractors Association covers about 1,350 electricians in the northern two-thirds of the state, including the Phoenix area, Casa Grande, Prescott and Bullhead City. The cut is in response to competition from non-union contractors.

More than 200 steel workers who have been working at the Phelps Dodge Corp. copper smelter in Morenci have been kicked out of the United Steelworkers of America Local 616 and fined $1,000 to $2,000 each by the union for breaching a contract they made when they accepted their union membership cards. Union leaders say the action blackballs the workers from any AFL-CIO union.

August - The National Labor Relations Board in Washington has ruled that a union cannot impose any restrictions on a worker's right to resign his or her union membership, even during a strike. The decision reversed a board policy handed down in 1982 that had allowed a union to require a 30-day waiting period before a resignation became effective. The board rejected a union argument that the restriction is justified because it seeks to preserve strike solidarity and protect the rights of employees who choose to continue to strike. The ruling may strengthen a pending case against the Ajo Machinist local, which has levied $5,000 fines against members who defied a strike against Phelps Dodge Corp. and crossed picket lines to work.

December - The two anti-union propositions on the Arizona November ballot showed conflicting results. Proposition 300, which prohibits cities and towns from enacting their own version of Little Davis Bacon mandating payment of "prevailing wages" on public-works projects, was passed by a margin of some 11,200 votes. A second measure, Proposition 102, would have prohibited strikes by public employees. The measure was defeated by more than 100,000 votes.

STRIKE UPDATE

January - Duval Corp.'s Sierrita Mine is currently operating with a work force of approximately 990, including practically all of about 470 union-represented employees who returned to their jobs without a contract. Although the unions technically are on strike, no negotiation meetings have been scheduled. In the meantime, a "cross-training" program has been instituted at Duval's Sierrita Mine. By training workers to perform two or more different jobs, Duval hopes to cut costs.

At Duval's closed Mineral Park molybdenum mine at Kingman, tentative agreement has been negotiated on issues of concern. However, according to company spokesmen, a contract settlement will not change the status of the mine which has been closed since December 15, 1981.

Tentative agreement has been reached on the nationwide Greyhound strike. As of December 15, details of the agreement are incomplete but union sources acknowledge the pact contains major concessions, including a 7.8 percent wage cut--the same amount rejected earlier by more than 90 percent of union members--and a commitment by the employees to assume from the company a 4 percent payment into the pension plan. However, the new agreement does restore a seniority roster for work agreements and other benefits the company sought to eliminate and deletes a clause allowing use of part-time workers.

Some 12,700 drivers, baggage handlers, terminal personnel and mechanics will vote on the proposed contract. Ballots are expected to be counted in Phoenix by December 20th.

The talks between Phelps Dodge and negotiators for the striking unions remain in virtual stalemate. Although the company has agreed to reinstate about 80 to 85 percent of the side agreements canceled July 1, no progress has been made on the main union demands--cost-of-living raises and higher wages for new employees. The chief negotiator for Phelps Dodge has said that according to labor law, "We have to continue to negotiate if they make counterproposals, but there is no real progress."

Despite the statemate, the coalition of unions to which the strikers belong refuses to believe the situation is hopeless. As reported by the Tucson Citizen, labor officials cite the following reasons for continued optimism:

- A U.S. Supreme Court ruling that some union leaders say means Phelps Dodge will have to fire replacement workers. This is contrary to Phelps Dodge's assertion that because of the court opinion, the company has the legal right to permanently replace strikers.
- Lack of experienced workers among the replacements. The company counters that it has recruited qualified workers for craft jobs and that other production tasks can be learned in a relatively short period.
- Replacement workers may quit either because the work is more drudgery than they anticipated or a further drop in the price of copper may cause Phelps Dodge to lay off its replacement workers. In either case, the outcome theoretically would be the willingness of Phelps Dodge to settle the dispute with the unions.
- New employees and non-strikers need what can be won for them through settlement of the strike.
- Phelps Dodge must eventually give in on the cost-of-living issue. In contract negotiations every three years since 1967, copper unions headed by the United Steelworkers of America have reached an agreement with one company and then have been able to induce other company producers to accept the same pattern in new contracts. However, Phelps Dodge has given no indication that it is willing to continue this practice.

In the meantime, the talks remain in extended recess. According to a Phelps Dodge official, the earliest that talks will resume is January 10th.

March - No progress has been reported in the months-long stalemate between the Phelps Dodge Corp. and 13 striking unions. Reinstatement of seniority and cost-of-living adjustments for copper miners appear to be the major issues delaying an agreement. In attempts to break the deadlock, Governor Babbitt met last month with Frank McKee, international treasurer of the United Steelworkers of America, and with Kay McMurray, chief of the federal Mediation and Conciliation Service. In his meeting with McMurray, Babbitt suggested that the strike negotiations be moved to Washington in hopes of breaking the stalemate.

April - A strike called February 22nd by the United Mine Workers closed Peabody's Black Mesa and Kayenta Mines, both located on the Navajo Reservation near Kayenta. According to the UMW, the new contract was rejected for several reasons, including staggered vacations and retirement benefits.

September - A brief strike at the Arizona Portland Cement Co. plant at Rillito has ended. Although workers are negotiating a contact with the company, the walkout was sparked by an unrelated matter -- the union's charge that the company would not allow access to union leaders from outside to examine certain working conditions. Bargaining sessions on the contract are scheduled for September 20 and 21. The company is proposing a three-year contract that would include no pay increase the first year, cuts in benefits and changes in work rules.

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ARIZONA LABOR MARKET INFORMATION NEWSLETTER

Vol. X No. 3
March 1985

Unemployment Rate

Seasonally Adjusted
January*

ARIZONA	5.4%
Maricopa Co.	4.2%
Pima Co.	5.2%
UNITED STATES	7.4%

Consumer Price Index

National-December
1967 - Base Year

Wage Earner/Clerical Worker - 312.2
% Chg. Yr. Ago 3.1

All Urban - 315.5
% Chg. Yr. Ago 3.4

Phoenix-4th Qtr.
1977 - Base Year

All Urban - 184.4
% Chg. Yr. Ago 5.9

Producer Price Index

National-December*
1967 - Base Year

All Commodities-309.9
% Chg. Yr. Ago 1.2

Finished Goods - 292.5
% Chg. Yr. Ago 1.8

* Preliminary

ARIZONA OUTLOOK

Economic forecasts have become a backbone of the Research Administration's labor market information program. They are the basis for much that follows later in the year including occupational forecasts that help training program administrators set priorities. With so much riding on the outcome, accuracy is a goal about which the Research Administration's forecasters cannot be cavalier.

Thanks to George Orwell, we all looked forward to 1984 with some trepidation. In looking back upon it, 1984 was a pleasant surprise. In Arizona it was one of the strongest growth years ever experienced.

Looking to the years beyond 1984 is what this issue is all about. The year just past is reviewed to layout the economic scenario from which forecasts for the next three years must follow. An overview of the state is followed by detailed accounts for the Phoenix and Tucson MSAs and the total of the nonmetropolitan counties.

As with George Orwell, the judgments of the forecasters' success in achieving accuracy must await the passing of the forecasted year.

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Ron Simon, editor

ARIZONA IN 1984

Employment in Arizona expanded at an explosive pace in 1984, with record levels reached in many categories. With the notable exception of copper mining, most industries added jobs throughout the year. Total employment rose by over 100,000 statewide, with establishments in the Phoenix metropolitan area accounting for nearly 77,000 new jobs.

Construction surpassed the record employment level achieved during the summer of 1979 and by the end of the year provided over 100,000 jobs for Arizona residents. Homebuilding activity was especially strong in the metropolitan areas, fueled by rapid population growth and a decline in mortgage interest rates observed in the summer and autumn months. The surge in construction activity was not confined to Maricopa and Pima counties, however--the nonmetropolitan areas created over 2,300 new construction jobs during 1984, an increase of nearly 25 percent. In addition to high levels of single- and multi-family housing construction, commercial and industrial building also contributed to Arizona's construction boom.

The attraction that Arizona has for high tech manufacturing was evident throughout 1984. Despite reports from the industry of excessive semiconductor inventories in the second half of the year, most electronics manufacturers in the state avoided the massive layoffs experienced during the 1974-1975 slowdown. Producers of other durable goods, especially military and defense-related equipment, expanded staff requirements throughout 1984, reflecting the increases in defense spending reported at the national level. Producers of non-durable consumer goods such as food, apparel and publications also enjoyed a good year, responding to the general rise in demand for consumer goods generated by the continuing economic recovery.

The service-producing sectors of the state economy also enjoyed an outstanding year. Jobs in wholesale trade increased by over 12 percent in 1984; employment in retail trade and in finance, insurance and real estate rose by 9 percent during the year. These figures are not surprising when the rapid growth of population and consumer demand during the 1983-1984 expansion are taken into account. The proliferation of business and commercial activity in the state is reflected in the enormous growth of employment in business services. About 1,000 jobs per month were added last year in this category, which includes accounting firms, building security and maintenance firms, temporary help agencies and other enterprises that mainly serve the state's expanding business sector. While a growth rate even close to last year's 26 percent would be impossible to sustain for very long, the 1984 experience is an indication of the increasing importance that finance and commerce have in shaping the growth and direction of Arizona's economy.

Any review of the state's economic performance in 1984 runs the risk of reciting a litany of large numbers. This is not necessary, because these numbers do, to a large extent, speak for themselves. The following articles will provide an analysis of what the future will bring for Arizona in 1985 and beyond.

Brian Cary

EMPLOYMENT IN ARIZONA
(annual averages, in thousands)

	1983	1984	Percent Change
Total Wage and Salary Employment	1077.8	1180.8	9.6
Manufacturing	155.8	172.3	10.6
Mining	14.3	13.3	-7.0
Construction	78.6	96.2	22.4
T.C.P.U.	57.2	60.4	5.6
Trade	260.9	286.6	9.9
F.I.R.E.	65.7	71.7	9.1
Services	242.2	274.1	13.2
Government	203.1	206.1	1.5

NOTE: Annual averages may not add due to rounding.

EMPLOYMENT FORECASTS FOR 1985 - 1987

ARIZONA, 1985 - 1987

Arizona's economy has been one of the most dynamic in the country in the past two years. While employment in the state is not expected to grow at the record pace of 1984, the next three years should see an additional 130,000 people employed in Arizona. Much of this growth, about 40 percent, is expected to take place this year. While no recession is anticipated, 1986 should be considerably weaker with employment growing by only 2.6 percent. By 1987, most industries should start to see higher growth rates, with the exceptions of manufacturing, mining, construction and transportation, communications and public utilities (TCPU).

It is anticipated that the majority of new jobs in the next three years, around 75 percent, will be in Maricopa County with Pima County receiving 19 percent and the nonmetropolitan counties about 6 percent. The industries that are expected to grow the most, in terms of the number of jobs, are services (40600), trade (32200) and manufacturing (28600). The only major industry expected to lose employment in the next three years is mining. Finally, because our state's economy has been so strong, it has been attracting thousands of job seekers from other states. This, coupled with slower job growth, will result in higher unemployment rates for the state, peaking at 6.6 percent in 1987.

As mentioned above, service and trade will add the largest number of workers over the next three years. Virtually all of the components of those industries are expected to perform well, particularly in the urban counties. The largest gains should be in the business services sector (temporary help agencies, advertising firms, etc.), hotels, general merchandise stores and eating and drinking establishments.

Manufacturing is expected to add the third largest number of jobs by 1987. The vast majority of these new jobs will be in durable manufacturing, particularly those sectors considered "high-tech." Employment growth in manufacturing is expected to decelerate throughout the forecast period due to a weaker national economy, increased competition in computer-related products and employment losses in primary-metals manufacturing due to the weakness in copper prices.

Construction employment should increase by 7.3 percent in 1985, down from 1984's rate of 22.3 percent. Rising interest rates in late 1985 and early 1986 help push employment growth down to 3.6 percent in 1986 before flattening out in 1987. Also helping to hold down growth will be the completion of two power plants in the state. It should be noted, however, that these employment levels are very high and that there is going to be a lot of construction going on in the state, particularly in Maricopa County.

Government, TCPU and finance, insurance and real estate (FIRE) are all expected to have modest growth in the next three years. Government employment growth will be primarily in schools and state and local government. Growth in federal employment will be mostly related to the military. Overall, however, budget tightness will prevent large numbers of jobs from being created. TCPU will see growth mainly in the transportation sector, particularly in trucking companies and at Sky Harbor Airport. The finance and insurance sector will perform well because of population growth and the expansion of out-of-state financial institutions into the state. Real estate employment, on the other hand, is likely to be flat in 1985 and decline somewhat in 1986 and 1987. This weakness is typical following extremely strong years such as 1984.

The mining industry is expected to lose about 2,600 workers by 1987, mostly in copper mining. This is the result of the expectation that copper prices will continue to be low and that little if anything will be done to restrict imports. This loss of employment will put a great deal of upward pressure on unemployment rates in Pima County and in some nonmetropolitan counties.

Arizona's economic future, for the most part, continues to look good. Employment growth should be strong in 1985 before pausing for a slight rest in 1986 and then picking up again in 1987. Unemployment is expected to rise during the next three years; not because of massive layoffs but rather because job creation is not expected to keep pace with population growth.

David Sinclair

ARIZONA
(annual averages, in thousands)

	1984	1985	PERCENT CHANGE	1986	PERCENT CHANGE	1987	PERCENT CHANGE
LABOR FORCE	1432.0	1501.0	4.8	1550.2	3.2	1596.6	2.9
UNEMPLOYMENT	71.0	89.0	25.4	101.0	13.5	105.9	4.8
EMPLOYMENT	1361.0	1412.0	3.7	1449.2	2.6	1490.7	2.8
UNEMPLOYMENT RATE	5.0%	5.9%	17.9	6.5%	9.9	6.6%	1.8
WAGE AND SALARY EMPLOYMENT	1180.8	1237.1	4.8	1269.7	2.6	1306.1	2.8
MANUFACTURING	172.3	183.8	6.6	192.6	4.8	200.9	4.3
MINING	13.3	11.8	-11.3	11.0	-6.5	10.7	-2.8
CONSTRUCTION	96.2	103.2	7.3	106.0	2.6	106.0	0.0
TCPU	60.4	62.8	3.9	64.1	2.0	65.1	1.5
TRADE	286.7	301.4	5.1	308.6	2.3	318.9	3.3
FIRE	71.7	74.0	3.3	75.7	2.2	78.0	2.9
SERVICES	274.1	290.5	5.9	301.9	3.9	314.7	4.2
GOVERNMENT	206.1	209.5	1.6	209.7	0.1	211.9	1.0

NOTE: Annual averages may not add due to rounding. Percent changes are calculated using unrounded figures.

MARICOPA COUNTY, 1985 - 1987

The economic outlook for Maricopa County continues to be bright. Although growth will not be at the breakneck pace of 1984, there will be nearly 100,000 additional jobs in the the county by 1987. The employment growth will take place primarily in services, trade, durable manufacturing and construction. Approximately 40 percent of the total job growth should take place in 1985, due primarily to the prospects for lower interest rates and a generally strong national economy. Employment growth should slow considerably in 1986 as a result of an aging business cycle and the likelihood for higher interest rates. The economy's health in 1987 is rather mixed. Growth in manufacturing and construction are likely to slow further while the service and trade industries remain fairly strong, although weaker than in 1985. Ironically, all of this good news will be partially responsible for some bad news, namely slightly higher unemployment. The strong growth experienced in 1984 has attracted thousands of out-of-state job seekers to the county and the prospects for continued growth will attract thousands more. While the local economy was able to absorb most of these people last year, that will probably not be the case in the near future. Therefore, slower job growth and a combined high rate of immigration will cause the county's unemployment rate to rise to 4.3 percent in 1985, 4.9 percent in 1986 and 5.2 percent in 1987.

The largest source of new jobs in the next three years will be the service industry. Approximately 28,000 more people will be working in services by 1987. In terms of the number of jobs, the business services sector will see the most growth. This category encompasses a wide range of businesses including temporary help agencies, advertising companies, consultants and pest control firms. Business services should have a very good 1985 with some weakening in 1986 due primarily to a slower economy resulting in the need for fewer temporary workers. By 1987, however, the growth rate will increase as overall economic activity picks up.

In 1985, the hotel and lodging sector will see a continuation of the growth that began in late 1983. However, 1986 could prove to be a very weak year in terms of new employment in this sector. This will be primarily due to the large number of rooms built in the Valley over the past three years. Also, the prospects of a slower national economy will result in fewer dollars available for vacations. Finally, the health service industry should see growth of about two percent in 1985 and 1986. The possibility of increased regulation or competition or both will result in 1987 being a relatively flat year in terms of employment growth.

The trade industry will be the second largest source of new jobs. This industry will add approximately 10,600, 5,500 and 8,000 jobs in 1985, 1986 and 1987, respectively. The growth will come primarily in department stores, food stores and eating and drinking establishments, however, only the last sector will be strong throughout the period. Because of a generally weaker economy expected in 1986, employment growth will be lower next year before recovering in 1987. The slowest trade sector in the next three years will probably be the automotive-related business, particularly car dealers. This is due to higher interest rates and the possibility of increased competition due to the relaxation of import quotas.

Manufacturing is expected to have a good year this year but weakening in both 1986 and 1987. Durable manufacturing will be the source for over 90 percent of new manufacturing jobs. As might be expected, "high-tech" related firms are expected to perform well. Nearly half of the 8,000 new jobs in durable manufacturing in 1985 will be in the electrical machinery sector. Also expected to add more employees is the aircraft and ordnance sector. Finally, the only non-durable manufacturing sector expected to create a large number of new jobs is printing and publishing.

Construction is expected to have a good year in 1985, adding another 5,000 workers.

However, this is less than half of the number of jobs created in 1984. The growth in 1985 will be spurred by the prospects for lower interest rates, strong population growth, office and commercial construction and transportation projects. In 1986, the growth will again be cut in half because of the likelihood of rising interest rates and the continued reduction of workers at the Palo Verde nuclear plant. Finally, 1987 will probably be similar to 1986, only slightly weaker.

The finance, insurance and real estate industry should average between 2.7 percent and 3.5 percent growth over the next three years with most of the growth in the finance and insurance sectors. These two sectors will be strong because of population growth, office and commercial construction and the growth of interstate banks. Real estate employment growth, on the other hand, will be very weak. This is primarily due to the trememdous growth experienced in 1983 and 1984. Employment typically levels off in this sector immediately following extremely good years. Also, rising interest rates in 1986 and 1987 will dampen employment growth.

Transportation, communications and public utilities is another group that will experience modest growth in the future. Employment opportunities will mainly be in the transportation sector. Sky Harbor Airport is expected to continue to expand operations, as are trucking companies. Public utilities are likely to experience little change in employment levels because of the regulatory climate in Arizona.

Government employment will continue to increase slightly in the coming years. All sectors of government, federal, schools and state and local, should experience slight growth in 1985 to support the rapid population growth. However, 1986 will probably see a slight decline in school employment which is typical following years of good growth. Also, budget cuts could see the reduction of some services offered by local governments, resulting in lower employment.

MARICOPA COUNTY
(annual averages, in thousands)

	1984	1985	PERCENT CHANGE	1986	PERCENT CHANGE	1987	PERCENT CHANGE
LABOR FORCE	905.1	951.6	5.1	985.7	3.5	1022.2	3.7
UNEMPLOYMENT	34.2	41.2	20.5	47.8	16.0	53.4	11.5
EMPLOYMENT	870.9	910.4	4.5	937.8	3.0	968.8	3.3
UNEMPLOYMENT RATE	3.8%	4.3%	13.2	4.9%	12.0	5.2%	7.6
WAGE AND SALARY EMPLOYMENT	769.7	811.3	5.4	836.3	3.0	864.4	3.3
MANUFACTURING	125.1	133.9	7.0	141.2	5.5	147.9	4.7
MINING	0.6	0.6	0.0	0.6	0.0	0.6	0.0
CONSTRUCTION	66.2	71.2	7.5	73.4	3.1	73.8	0.5
TCPU	39.2	40.9	4.3	41.7	1.9	42.2	1.1
TRADE	194.9	205.5	5.4	211.0	2.6	219.0	3.8
FIRE	56.0	57.9	3.4	59.5	2.7	61.6	3.5
SERVICES	185.6	197.4	6.3	205.0	3.8	214.0	4.4
GOVERNMENT	102.1	104.0	1.8	103.8	-0.1	105.3	1.3

NOTE: Annual averages may not add due to rounding. Percent changes are calculated using unrounded figures.

Growth in federal government employment will probably be related to military spending in the state.

Overall, employment opportunities will remain good in Maricopa County. The industries that will provide the bulk of the employment growth will be services, trade, durable manufacturing and construction. It is expected that 1985 will be a good year although unemployment will rise slightly because of strong population growth and slower employment growth. In 1986, growth will slow further resulting in a somewhat higher unemployment until finally, in 1987, employment growth picks up, but not enough to reduce the county's unemployment rate.

David Sinclair

PIMA COUNTY, 1985 - 1987

The pattern of rapid economic expansion seen in the Phoenix metropolitan area in 1984 was also observed in Pima County. As the year concluded, however, the evidence indicated that the rate of growth in the Tucson area, while very strong, was not quite as fast as that in Maricopa County. A similar pattern is expected to continue through 1985 and the next few years; the 1984 boom should wind down this year and a period of moderate employment growth should persist into 1987.

The hiring activity of the county's major durable goods manufacturers was mixed last year. Overall, employment grew by nearly 10 percent, with many of the new jobs concentrated among a relatively small number of employers. Some firms that were expected to add large numbers of workers experienced unexpected difficulties which curtailed the growth of their payrolls. Nevertheless, underlying conditions generally favor continued expansion in this sector for several reasons. A strong commitment to increased defense spending at the federal level should ensure additional growth among Pima County's major military contractors. This, combined with an outlook of cautious optimism for producers of electronic equipment, should result in an increase in employment of 6 to 7 percent in this sector in 1985, slowing to less than 3 percent growth in 1986. Employment also will rise in non-durable manufacturing, but at a slower rate.

The boom-like conditions observed in Pima County's construction industry during 1983 continued unabated into 1984, with over 3,000 more jobs added last year. Building activity was very strong across all construction sectors--residential, industrial and commercial construction all made significant contributions. The forecast for interest rates on mortgages and long term bonds indicates the near future will be a period of relative stability. This would result in sustained demand for housing, especially single-family structures. Despite uncertainty surrounding the prospect of new federal tax laws, there is enough commercial construction under way or scheduled to begin in 1985 that jobs in construction should remain plentiful through the year; by 1986, however, new construction jobs may be in short supply.

After the sluggish years of 1982 and 1983, 1984 brought renewed employment growth in the Tucson area retail trade sector. Population increases in the northwestern section of the metropolitan area have helped to relieve a somewhat overbuilt retail trade market there, and a generally healthy economy throughout the county created retail jobs at a strong pace last year. Two persistent economic problems in southern Arizona--a weak market for copper and a generally weak Mexican economy--have inhibited growth to some degree, but the effects of these factors are being partially offset by continued strength in other sectors. While retail trade expansion will continue, wholesale trade is expected to create nearly 1,000 jobs in 1985 and 1986. The rising volume of Mexican fruit and vegetables entering the United States along the Arizona border has resulted in more jobs in trucking, warehousing and distribution. With a rapidly growing population to serve, wholesale and retail trade promise to create jobs at a good clip for the next few years.

Just as it has in Maricopa County, the service sector experienced explosive growth in the Tucson area. Two industries in particular -- hotels and lodging and business services -- led the way. New hotel development is proceeding unabated, with resorts as well as commercial lodging facilities expected to add over 700 workers to area payrolls during the next two years. Business services, including activities such as building maintenance and security, temporary help agencies and accounting and advertising firms, grew by a whopping 21 percent in 1984. With 1,200 new jobs this year and 750 more in 1986, business services will be an important source of employment growth. The rising level of commerce in Pima County will require an increasingly diverse array of business services; the rate of growth will be moderate relative to 1984, since the use of temporary help by area manufacturers is expected to level off and perhaps decline in 1985.

Overall, the prospects for strong employment growth in Pima County remain very good for the next two years. The local economy has adjusted to the smaller role that copper production and Mexican trade now have in the area labor market. While job opportunities will be available in a wide range of industries and occupations, the county labor force will continue to expand rapidly, making a rise in unemployment likely through 1985 before leveling off in the 6 to 7 percent range in 1986.

Brian Cary

PIMA COUNTY
(annual averages, in thousands)

	1984	1985	PERCENT CHANGE	1986	PERCENT CHANGE	1987	PERCENT CHANGE
LABOR FORCE	260.7	275.7	5.8	285.2	3.4	292.0	2.3
UNEMPLOYMENT	11.7	15.5	32.5	18.2	17.4	18.4	1.0
EMPLOYMENT	249.1	260.3	4.5	267.0	2.5	273.5	2.4
UNEMPLOYMENT RATE	4.5%	5.6%	24.4	6.4%	14.3	6.3%	-1.6
WAGE AND SALARY EMPLOYMENT	214.0	223.5	4.4	228.6	2.2	233.4	2.1
MANUFACTURING	29.0	30.8	6.2	31.7	2.8	32.7	3.2
MINING	3.4	2.6	-23.5	2.5	-4.0	2.4	-4.1
CONSTRUCTION	18.2	19.4	6.6	19.6	1.0	19.5	-0.5
TCPU	8.9	9.0	1.1	9.2	2.2	9.5	3.3
TRADE	47.3	50.1	5.9	51.3	2.3	52.6	2.5
FIRE	10.0	10.5	5.0	10.6	1.0	10.6	0.0
SERVICES	50.4	53.5	6.2	55.9	4.4	58.0	3.7
GOVERNMENT	46.9	47.7	1.7	47.9	0.4	48.1	0.4

NOTE: Annual averages may not add due to rounding. Percent changes are calculated using unrounded figures.

THE ARIZONA LABOR FORCE IN JANUARY 1985

Unemployment jumped suddenly in January. The combination of seasonal job losses, job seekers entering the labor force and permanent layoffs caused the Arizona unemployment rate to take its largest one-month jump since February 1975. In eight of the last 12 months, the unemployment rate has been at or below 5.0 percent. But as had been expected, unemployment has reached its low point and apparently is headed upward. Although the magnitude of the increase was much larger than expected, we still expect that unemployment this year will average 5.5-6.0 percent.

Over the month, out of 41 industries for which employment is estimated, 25 recorded a decline. The greatest job losses occurred in government and retail trade where school closings at the end of the fall term and the end of Christmas buying caused employment to decline rapidly. Although most of the school-related employment will recover in February, the retail trade losses were significant in their magnitude.

Particularly noteworthy in January's statistics were the job losses of 200 and 600 respectively in manufacturing and mining. After a slight and shortlived recovery, employment in copper mining continued its decline. The industry's economic situation is basically unchanged from what it was many months ago. Low prices, foreign competition and new technology are all working against any recovery. Copper mining employment has again fallen to its lowest recorded level and the prognosis remains bleak.

In manufacturing, although some jobs are being lost, major attention is being directed at the reduced rate of hiring among the state's high-technology employers. Market forces continue to place pressure on electronics and aerospace firms alike, and that situation will likely continue until spring or early summer before some resolution occurs. A combination of reduced workweek and temporary furloughs will hopefully solve any overproduction problems.

Poor weather and rising vacancy rates have contributed to some slight weakness in construction, but employment is only 600 below its record high level of November 1984. Construction gains were strong in Maricopa County, but losses in Pima County and the balance of the state partially offset statewide improvement. How much longer this level can be sustained is a matter of conjecture. As our forecasts for 1985 indicate, the spectacular growth of 1984 will not likely be repeated.

The rapid increase in the unemployment rate recorded in January must be put in perspective. January is typically a month of substantial seasonal employment losses and, that, combined with our rapid rate of growth, will cause the unemployment rate to increase. Nationally, slower growth will impact on Arizona in terms of fewer jobs throughout the state's economy and a longer period of job search for job seekers. Arizona's substantially lower level of unemployment is passing as we enter a weaker phase of economic growth. However, job layoffs, although they may become more dominant in the news, are still a limited part of the state's economy.

Dan Anderson

ARIZONA UNEMPLOYMENT INSURANCE ACTIVITIES - DECEMBER 1984

	December 1984	November 1984	December 1983	From One Year Ago
Arizona Claimants Served*	23,103	22,155	36,714	-37.1%
Arizona Average Weeks Unemployed**	9.0	8.7	9.8	- 8.2%
Arizona Benefits Paid*	$ 6,965,460	$ 7,274,043	$ 12,165,136	-42.7%
Arizona Trust Fund Balance	$238,513,500	$242,875,074	$165,815,096	+43.8%

*All Programs **UI Only

Arizona Labor Force and Employment

January 1985 (in thousands)

	ARIZONA				
				-- Amt Change --	
	Jan.* 1985	Dec. 1984	Jan. 1984	Dec. to Jan.	1984 to 1985
TOTAL CIVILIAN LABOR FORCE	1474.8	1490.5	1395.3	-15.7	+79.5
Total Unemployment	82.2	64.1	88.4	+18.1	-6.2
Rate	5.6	4.3	6.3	---	---
Rate (Sea. Adj.)**	5.4	4.4	6.2	---	---
Total Employment	1392.6	1426.4	1306.9	-33.8	+85.7

THE ABOVE LABOR FORCE STATISTICS SHOULD N

NONAGRICULTURAL WAGE AND SALARY EMPLOYMENT BY PLACE OF WORK

	Jan.* 1985	Dec. 1984	Jan. 1984	Dec. to Jan.	1984 to 1985
TOTAL WAGE AND SALARY	1228.4	1243.4	1126.9	-15.0	+101.5
Manufacturing	178.7	178.8	163.4	-0.1	+15.3
Durable Goods	141.6	141.2	128.2	+0.4	+13.4
Stone, Clay and Glass	7.8	7.6	7.0	+0.2	+0.8
Primary and Fabricated Metals	16.9	17.1	15.1	-0.2	+1.8
Primary Metals	7.4	7.4	6.6	+0.0	+0.8
Fabricated Metals	9.5	9.7	8.5	-0.2	+1.0
Machinery	71.5	71.0	64.5	+0.5	+7.0
Other Durable Goods	45.4	45.5	41.6	-0.1	+3.8
Aircraft and Missiles	20.5	20.4	18.7	+0.1	+1.8
Lumber and Wood Products (Except Furniture)	7.1	7.3	6.9	-0.2	+0.2
All Other Durable Goods	17.8	17.8	16.0	+0.0	+1.8
Nondurable Goods	37.1	37.6	35.2	-0.5	+1.9
Food and Kindred Products	8.0	8.1	7.8	-0.1	+0.2
Apparel	4.9	5.1	4.9	-0.2	+0.0
Printing and Publishing	14.1	14.0	12.8	+0.1	+1.3
All Other Nondurable Goods	10.1	10.4	9.7	-0.3	+0.4
Mining and Quarrying	12.3	12.9	14.2	-0.6	-1.9
Copper Mining	9.5	10.1	11.3	-0.6	-1.8
Other Mining and Quarrying	2.8	2.8	2.9	+0.0	-0.1
Construction	103.0	102.8	86.2	+0.2	+16.8
Trans., Communications, and Public Utilities	62.0	62.9	58.8	-0.9	+3.2
Transportation	28.8	29.7	26.8	-0.9	+2.0
Communications and Public Utilities	33.2	33.2	32.0	+0.0	+1.2
Trade	303.5	307.8	275.9	-4.3	+27.6
Wholesale Trade	62.6	61.8	56.3	+0.8	+6.3
Retail Trade	240.9	246.0	219.6	-5.1	+21.3
General Merchandise and Apparel	41.6	44.3	38.9	-2.7	+2.7
Food Stores	36.7	37.4	34.1	-0.7	+2.6
Automotive and Service Stations	28.0	28.1	25.6	-0.1	+2.4
Eating and Drinking Places	82.5	82.8	75.2	-0.3	+7.3
Other Retail Trade	52.1	53.4	45.8	-1.3	+6.3
Finance, Insurance, and Real Estate	73.7	73.6	68.6	+0.1	+5.1
Services and Miscellaneous	286.1	285.1	257.9	+1.0	+28.2
Hotels and Other Lodging Places	30.0	29.6	26.0	+0.4	+4.0
Business Services	65.5	64.8	54.2	+0.7	+11.3
Health Services	69.8	70.2	67.5	-0.4	+2.3
Other Services	120.8	120.5	110.2	+0.3	+10.6
Government	209.1	219.5	201.9	-10.4	+7.2
Federal	39.5	39.8	38.2	-0.3	+1.3
State and Local	169.6	179.7	163.7	-10.1	+5.9
School	100.3	110.4	97.3	-10.1	+2.9

* Preliminary

** Normal seasonal variations have been eliminated to reflect underlying economic trends.

NOTE--Prepared in cooperation with the U.S. Department of Labor,Bureau of Labor Statistics.

Arizona Labor Force and Employment

January 1985 (in thousands)

MARICOPA COUNTY					PIMA COUNTY				
			-- Amt Change --					-- Amt Change --	
Jan.* 1985	Dec. 1984	Jan. 1984	Dec. to Jan.	1984 to 1985	Jan.* 1985	Dec. 1984	Jan. 1984	Dec. to Jan.	1984 to 1985
938.7	948.0	878.0	-9.3	+60.7	269.5	272.0	256.1	-2.5	+13.4
40.3	31.3	43.5	+9.0	-3.2	14.0	10.8	15.3	+3.2	-1.3
4.3	3.3	5.0	---	---	5.2	4.0	6.0	---	---
4.2	3.4	4.8	---	---	5.2	4.1	5.9	---	---
898.4	916.7	834.5	-18.3	+63.9	255.5	261.2	240.8	-5.7	+14.7

T BE USED FOR ECONOMIC ASSISTANCE PROGRAMS.

NONAGRICULTURAL WAGE AND SALARY EMPLOYMENT BY PLACE OF WORK

806.6	813.7	733.6	-7.1	+73.0	223.5	225.7	205.9	-2.2	+17.6
130.4	130.2	118.5	+0.2	+11.9	30.0	30.0	27.5	+0.0	+2.5
104.8	104.3	93.8	+0.5	+11.0	25.0	24.9	22.8	+0.1	+2.2
4.7	4.7	4.0	+0.0	+0.7					
11.0	11.0	9.6	+0.0	+1.4					
57.6	57.1	51.8	+0.5	+5.8					
31.5	31.5	28.4	+0.0	+3.1					
25.6	25.9	24.7	-0.3	+0.9	5.0	5.1	4.7	-0.1	+0.3
5.3	5.3	5.4	+0.0	-0.1					
2.8	2.9	3.0	-0.1	-0.2					
10.4	10.3	9.4	+0.1	+1.0					
7.1	7.4	6.9	-0.3	+0.2					
0.6	0.6	0.6	+0.0	+0.0	2.8	2.9	3.6	-0.1	-0.8
71.7	71.0	59.5	+0.7	+12.2	19.1	19.3	16.8	-0.2	+2.3
40.6	41.2	38.7	-0.6	+1.9	8.7	8.9	8.5	-0.2	+0.2
19.5	20.1	18.3	-0.6	+1.2	3.9	4.1	3.8	-0.2	+0.1
21.1	21.1	20.4	+0.0	+0.7	4.8	4.8	4.7	+0.0	+0.1
207.2	210.2	187.9	-3.0	+19.3	49.9	50.5	45.5	-0.6	+4.4
49.1	48.8	44.1	+0.3	+5.0	7.1	6.9	6.4	+0.2	+0.7
158.1	161.4	143.8	-3.3	+14.3	42.8	43.6	39.1	-0.8	+3.7
26.3	28.3	25.0	-2.0	+1.3	8.2	8.6	7.3	-0.4	+0.9
23.6	24.1	22.0	-0.5	+1.6	5.7	5.9	5.4	-0.2	+0.3
17.8	17.9	16.2	-0.1	+1.6	4.5	4.5	4.2	+0.0	+0.3
53.9	53.5	48.9	+0.4	+5.0	15.5	15.6	14.2	-0.1	+1.3
36.5	37.6	31.7	-1.1	+4.8	8.9	9.0	8.0	-0.1	+0.9
57.4	57.3	53.7	+0.1	+3.7	10.4	10.4	9.5	+0.0	+0.9
195.9	194.6	175.4	+1.3	+20.5	53.0	52.6	47.9	+0.4	+5.1
18.8	18.4	15.9	+0.4	+2.9	4.9	4.8	4.2	+0.1	+0.7
53.7	53.2	45.3	+0.5	+8.4	9.1	9.0	7.1	+0.1	+2.0
47.6	48.0	45.6	-0.4	+2.0	14.0	14.0	13.8	+0.0	+0.2
75.8	75.0	68.6	+0.8	+7.2	25.0	24.8	22.8	+0.2	+2.2
102.8	108.6	99.3	-5.8	+3.5	49.6	51.1	46.6	-1.5	+3.0

-- Prepared by Labor Market Information, Research and Analysis (CPS, 1/85)

NONMETROPOLITAN COUNTIES LABOR FORCE AND EMPLOYMENT

JANUARY 1984

	Apache	Cochise	Coconino	Gila	Graham	Greenlee	La Paz
TOTAL CIVILIAN LABOR FORCE*.	16,100	29,200	35,075	12,950	7,900	3,275	4,725
Total Unemployment	2,300	2,425	3,350	1,800	975	475	625
Rate	14.3%	8.3%	9.6%	13.9%	12.3%	14.5%	13.2%
Rate (Seas. Adj.)**. . . .	13.9%	8.0%	8.6%	13.0%	12.2%	13.7%	-INA-
Total Employment	13,800	26,775	31,725	11,150	6,925	2,800	4,100

THE ABOVE LABOR FORCE STATISTICS SHOULD NOT BE USED
FOR ECONOMIC ASSISTANCE PROGRAMS

	Apache	Cochise	Coconino	Gila	Graham	Greenlee	La Paz
TOTAL WAGE AND SALARY. . . .	14,925	22,500	30,950	9,650	4,525	2,775	2,475
Manufacturing.	700	1,775	2,375	1,225	150	375	75
Mining and Quarrying	25	225	50	1,600	50	1,300	0
Construction	1,475	1,275	1,675	425	125	100	75
Trans., Comm., & Pub. Util..	2,000	1,400	2,400	300	150	50	50
Trade.	1,250	4,850	7,350	1,875	1,275	300	775
Fin., Insur., & Real Estate.	275	650	700	225	125	25	125
Services and Miscellaneous .	3,725	2,975	7,175	1,775	750	100	675
Government	5,475	9,350	9,225	2,225	1,900	525	700

	Mohave	Navajo	Pinal	Santa Cruz	Yavapai	Yuma
TOTAL CIVILIAN LABOR FORCE*.	23,425	25,075	32,075	8,825	33,400	34,500
Total Unemployment	2,350	3,175	3,525	1,000	2,475	3,400
Rate	10.0%	12.7%	11.0%	11.3%	7.4%	9.9%
Rate (Seas. Adj.)**. . . .	9.5%	11.6%	10.9%	12.7%	6.6%	-INA-
Total Employment	21,075	21,900	28,550	7,825	30,925	31,100

THE ABOVE LABOR FORCE STATISTICS SHOULD NOT BE USED
FOR ECONOMIC ASSISTANCE PROGRAMS

	Mohave	Navajo	Pinal	Santa Cruz	Yavapai	Yuma
TOTAL WAGE AND SALARY. . . .	16,725	17,700	25,250	8,100	19,200	23,550
Manufacturing.	2,175	1,625	3,450	750	2,150	1,525
Mining and Quarrying	175	1,100	3,725	0	525	50
Construction	1,375	800	850	225	1,825	2,000
Trans., Comm., & Pub. Util..	1,125	1,700	1,225	575	900	900
Trade.	4,800	3,150	4,625	3,650	4,950	7,575
Fin., Insur., & Real Estate.	900	325	650	225	800	825
Services and Miscellaneous .	3,175	4,550	2,725	1,175	3,700	4,700
Government	3,000	4,450	8,000	1,500	4,350	5,975

*Adjusted to the Current Population Survey (CPS) to reflect place of residence.
**Seasonal adjustment not applicable for economic assistance programs.

NOTE--Series for Yuma and La Paz counties start January 1983. Data are not comparable to any past series.

Prepared in conjunction with the U.S. Department of Labor, Bureau of Labor Statistics.

ARIZONA LABOR FORCE AND EMPLOYMENT FOR
ECONOMIC ASSISTANCE PROGRAMS
DECEMBER 1984 (Final, Benchmarked 1/85)

County	Civilian Labor Force	Employment	Unemployment	Rate
Statewide	1,554,592	1,490,538	64,054	4.5%
Apache	16,213	14,535	1,678	10.3
Cochise	24,303	27,428	1,875	6.4
Coconino	37,048	34,321	2,727	7.4
Gila	13,112	11,651	1,461	11.1
Graham	7,703	7,120	583	7.6
Greenlee	3,823	3,568	255	6.7
La Paz	4,831	4,284	547	11.3
Maricopa	947,970	916,677	31,293	3.3
Mohave	29,299	21,499	1,800	7.7
Navajo	25,380	22,908	2,472	9.7
Pima	271,900	261,138	10,762	4.0
Pinal	32,406	29,656	2,750	8.5
Santa Cruz	8,819	7,847	972	11.0
Yavapai	33,663	31,648	2,018	6.0
Yuma	35,068	32,207	4,861	8.2

These figures are the only official BLS labor statistics to be used for revenue sharing purposes. They are not designed to be used as economic indicators. Note: Series for Yuma and La Paz counties start January 1983. Data are not comparable to any past series. Data for 1984 were benchmarked in January 1985. Please contact the Research Administration if you need an updated series for 1984.

ESTIMATED HOURS AND EARNINGS OF PRODUCTION WORKERS IN SELECTED INDUSTRIES IN ARIZONA
JANUARY 1985

INDUSTRY	AVERAGE WEEKLY EARNINGS			AVERAGE WEEKLY HOURS			AVG. HOURLY EARNINGS		
	JAN.* 1985	DEC. 1984	JAN. 1984	JAN.* 1985	DEC. 1984	JAN. 1984	JAN.* 1985	DEC. 1984	JAN. 1984
FOR THE STATE OF ARIZONA*									
Manufacturing	383.40	377.81	373.01	40.4	40.8	40.9	9.49	9.26	9.12
Aircraft & Missiles	INA	INA	INA	INA	INA	INA	INA	INA	INA
Food & Kindred Products	298.05	294.84	320.26	39.9	40.5	37.9	7.47	7.28	8.45
Primary Metals	537.72	528.35	482.26	40.4	41.8	39.4	13.31	12.64	12.24
Machinery	346.46	333.66	342.33	40.1	40.2	40.9	8.64	8.30	8.37
Copper Mining	579.36	564.56	555.36	42.6	42.1	41.6	13.60	13.41	13.35
Construction	449.55	405.68	417.09	37.4	33.5	36.3	12.02	12.11	11.49
Utilities	598.98	598.98	554.18	44.8	44.8	44.8	13.37	13.37	12.37
Retail Trade**	236.14	228.74	213.14	33.4	34.5	33.2	7.07	6.63	6.42
Wholesale Trade	342.25	359.29	344.25	37.0	38.8	40.5	9.25	9.26	8.50

* Preliminary

** Excludes eating and drinking places.

NOTE--These estimates are based on a sample of full and part-time production and related employees whose payroll and hours are reported for the pay period which includes the 12th of the month. Prepared in cooperation with the U.S. Department of Labor, Bureau of Labor Statistics.

--Prepared by Labor Market Information, Research and Analysis (1972 SIC, 1/84)

NONMETROPOLITAN COUNTIES, 1985 - 1987

In general, employment in the nonmetropolitan counties will grow at a slower rate than in the urban counties. However, there are some cities in the rural parts of the state that should enjoy very strong economic growth. These cities are characterized by strong service and trade sectors, especially those related to tourism, some new manufacturing facilities and new construction projects. Overall, wage and salary employment growth in the nonmetropolitan counties is expected to be modest in 1985, about 2.6 percent, before declining in 1986 to around 1.3 percent. The following year, 1987, should be rather mixed with some industries recovering and others slipping slightly further but with total employment rising. Unemployment will continue to be a problem in the near future for the nonmetropolitan counties. In 1983 and 1984, unemployment rates in most of the rural counties declined, generally not because of strong employment growth but rather from labor force shrinkage. That meant that thousands of people were either moving to the urban areas to look for work or were dropping out of the labor force. With employment growth slowing in Maricopa and Pima counties, this labor force shrinkage is expected to reverse itself and result in higher unemployment. For the years 1985 to 1987, the area's unemployment rate should average 11.8 percent, 12.5 percent and 12.1 percent, respectively, up from 9.4 percent in 1984.

The trade and service industries will account for over half of all new jobs in the nonmetropolitan counties during the next three years with services adding 4,500 people and trade providing an additional 2,800 jobs. As mentioned above, many of these jobs will be related to tourism, namely in the hotel and lodging sector, general merchandise stores and in eating and drinking establishments. The counties expected to benefit the most from this growth are Mohave, Coconino, Cochise and Yavapai. If the Mexican peso vis-a-vis the U.S. dollar ever strengthens, then Santa Cruz County could see more growth in these industries than currently anticipated. Other sectors expected to show good growth include business services, health services, wholesale trade and food stores. The one sector expected to show some employment losses in 1986 and 1987 is automotive trade. This is due primarily to rising interest rates, a slowing national economy and increased competition.

Manufacturing and construction are expected to perform well in 1985 before slowing in 1986 and 1987. The strongest sectors in nondurable manufacturing include apparel, printing and publishing, and textiles, paper, plastics and leather. Food processing is expected to resume the modest declines experienced in the early 1980s. In durable manufacturing, lumber and wood products, stone, clay and glass, and, both electrical and nonelectrical machinery should experience modest employment growth in the next three years. The strength of the lumber and wood and stone, clay and glass sectors will be closely tied to the strength of the construction industry. This year is expected to be a good one for the construction industry, not only in the nonmetropolitan counties but in Maricopa and Pima counties as well. Approximately 900 new construction jobs will be created in rural Arizona in 1985, but only 300 in 1986. This slowdown is the result of higher interest rates and the completion of work on a power plant in Apache County. Finally, 1987 is expected to continue to be sluggish, resulting in the loss of 300 jobs. Again, not all counties will benefit equally from the growth in manufacturing and construction. It is expected that Navajo, Coconino and Apache counties will benefit from the growth in lumber and wood products, and Mohave, Yuma, Pinal, Yavapai and Cochise from construction and some manufacturing. Greenlee, Graham and Gila will be hurt somewhat by employment losses in primary metal manufacturing, mainly due to problems in the copper industry.

The mining industry is the only major category expected to have employment losses in each of the next three years. This is due to the expectation that copper prices will continue to be below levels needed to cover the cost of production and that no protection from foreign competition will be provided. This results in a loss of 1700 jobs over the next three years.

Two industries that are expected to have modest growth in the near future are transportation, communications and public utilities (TCPU) and finance, insurance and real estate (FIRE). TCPU should experience the most growth, primarily in 1985 in Apache County because of the new power plant there. Also, trucking firms in the southern part of the state should see some modest growth. FIRE is relatively flat overall, but its components are not. The finance and insurance sector should grow around 1 percent in 1985 and 1986 and by 2 percent in 1987. This will be caused mainly by population growth. However, the real estate sector is expected to lose some employment in 1985 and 1986 before recovering in 1987. This employment loss is typical after a year of strong employment growth. In 1984, real estate employment expanded by nearly 11 percent, thus probably overexpanding.

Finally, government, the largest employer in the nonmetropolitan counties, should add approximately 1,500 new jobs by 1987. The growth might be lower except that budget cuts at the federal level will probably result in the loss of some federal employment. State and local government employment should increase by 1 to 2 percent for the period while school employment should increase in 1985 and 1987 and decline slightly in 1986, again because of budget cuts.

The economic future of the nonmetropolitan counties is indeed mixed. The counties that are able to diversify their economies will be far better off. However, in the short run, those that are oriented toward tourism and light manufacturing will fare the best, while those dependent upon copper will continue to struggle.

David Sinclair

NONMETROPOLITAN COUNTIES
(annual averages, in thousands)

	1984	1985	PERCENT CHANGE	1986	PERCENT CHANGE	1987	PERCENT CHANGE
LABOR FORCE	266.2	273.6	2.8	279.4	2.1	282.5	1.1
UNEMPLOYMENT	25.1	32.2	28.3	35.0	8.4	34.1	-2.4
EMPLOYMENT	241.0	241.3	0.1	244.4	1.2	248.4	1.6
UNEMPLOYMENT RATE	9.4%	11.8%	25.5	12.5%	6.1	12.1%	-3.4
WAGE AND SALARY EMPLOYMENT	197.1	202.2	2.6	204.8	1.3	208.2	1.6
MANUFACTURING	18.2	19.2	5.5	19.8	3.0	20.3	2.8
MINING	9.3	8.5	-4.4	7.8	-7.9	7.6	-2.7
CONSTRUCTION	11.8	12.7	7.3	13.0	2.5	12.7	-2.6
TCPU	12.3	12.9	4.2	13.2	2.5	13.4	1.2
TRADE	44.5	45.8	2.9	46.3	1.1	47.3	2.1
FIRE	5.7	5.7	0.0	5.6	-0.8	5.7	1.7
SERVICES	38.1	39.6	4.0	41.0	3.5	42.6	3.9
GOVERNMENT	57.1	57.9	1.3	58.1	0.2	58.6	0.9

NOTE: Annual averages may not add due to rounding. Percent changes are calculated using unrounded figures.

PROJECT BEGUN TO IDENTIFY PERMANENT MASS LAYOFFS AND PLANT CLOSINGS

Congress has recently appropriated funds for the Bureau of Labor Statistics (BLS) to develop an ongoing reporting system which monitors the labor force status of workers displaced as a result of permanent mass layoffs and plant closings (PMLPC). Arizona is one of several pilot states which have been authorized by the BLS to develop such a system.

The PMLPC project is a standardized automated approach to identifying and describing the impact of major permanent job cutbacks using unemployment insurance claims data supplemented by data obtained from interviews with the affected establishments regarding the nature and causes of the layoffs.

The major features of the project include:

1. the identification of major layoffs and closings through initial UI claims data, with a major permanent layoff defined as one caused by economic reasons in which at least 25 initial claims have been filed in a three-week period, with the separations expected to last more than 30 days;
2. the use of automated data files to obtain the basic demographic characteristics of the individuals involved in the layoffs;
3. direct employer contact to obtain specific information regarding the nature and causes of the layoffs;
4. the identification of the continuing impact of the permanent layoff or plant closing on Arizona's labor force by tracking the original initial claimants through the unemployment insurance system.

The new information is expected to enhance the ability of Labor Market analysts in monitoring both National and local areas long- and short-run trends in employment patterns. In addition, valuable information will be obtained which will aid those involved in formulating localized vocational training program strategies.

Results of Arizona's pilot study will be integrated by BLS with those of other participating states in order to determine national, regional and local area patterns and impacts of these mass layoffs and plant closings. Any questions or comments regarding this project may be addressed to DES, Research Administration - 733A, P.O. Box 6123, Phoenix, Arizona 85005.

NEW DEVELOPMENTS

"New Developments" is featured each month as a service to employers and job seekers. It is a compilation of public announcements of the more significant new construction, grand openings, major hirings and layoffs and other employer events that have special significance for Arizona labor markets. The announcements are paraphrased and otherwise edited from articles published in newspapers and other priodicals from throughout the state. "New Developments" are limited to space available, and no attempt is made to compile an exhaustive list of all such events that have occurred during the month.

Business Services - The Avante Business Development Center opened its doors Janauary 10, 1985, to offer low-cost consulting services to minority firms in Arizona. Located at 333 West Indian School Road, the minority business development center offers the services of an extensive team of MBAs, CPAs, attorneys and other business professionals with expertise in capital formation, management, finance, marketing, procurement, construction assistance, mergers and acquisitions, bidding, business brokering and other areas. These services are available for a specially negotiated rate to minority-owned businesses, and business owners that are socially or economically disadvanteged. Eligible companies pay only ten percent to 25 percent of the total cost for companies of a given size based on gross sales. For example, if a company grosses under $500,000 consulting costs would be $2.50 per hour. If revenues are over $500,000 annually, consultant cost to the client company if $6.25 per hour. The center is a partnership between Avante International and the Minority Business Development Agency (MBDA) of the U.S. Department of Commerce. One major goal of the center will be to assist minority owners into high technology businesses and away from concentration in service businesses such as janitorial services.

Copper Mining - Phelps Dodge Corporation announced one-time losses of $195 million in the fourth quarter of 1984, plus additional yet-to-be posted losses on operations. The one-time losses were expected to reduce Phelps Dodge's net worth by nearly 20 percent -- to about $790 million. Fourth quarter losses combined with losses of $50 million reported in the first three quarters of the year will have reduced the company's net worth by at least 25 percent from a year ago.

Phelps Dodge worker union decertification ballot counts were announced on January 25 by the National Labor Relations Board in Phoenix. 13 unions are now at risk for potential decertification after all avenues of appeal are exhausted. The total unchallenged vote was 1906 to 87. The unions who may be decertified by this process include: the United Steelworkers, the Machinists union, the International Brotherhood of Electrical Workers, the Operating Engineers, the Plumbers and Pipefitters union, the Boilermakers union, the Carpenters union, the Painters union, the United Transportation Union, the Teamsters, the Chemical Workers union, the Carrier's union and the Metal Trades Council of the AFL-CIO.

By mid-February a second company was in the middle of a union decertification process. Workers at Duvall Corporation's Sierrita copper mine near Tucson voted 314 to 286 to decertify the United Steelworkers, Teamsters, Laborers and Operating Engineers unions as their bargaining representatives. A fifth union, the International Brotherhood of Electrical Workers, was not included in the decertification process.

Construction - Del E. Webb Corporation announced plans to build a $92.4 million corporate headquarters on 8.75 acres in Phoenix on Seventh Street between Catalina and Earll. It will be a $1.4 million complex including two 12-story, 250,000 square foot office towers, a 16-story, 270,000 square foot residential tower with 160 condominiums and a six-level partially underground 670,000 square foot parking facility. Construction is to begin, pending rezoning approval in April 1986. The Del E. Webb headquarters will occupy the phase I office tower which will front on Seventh Street. The phase II office tower is slated for construction in 1988, if market conditions are favorable.

The Lehndorff Group, owners of the Park Central Shopping Center, announced plans for a $450 million development featuring a high-rise hotel and four high-rise office buildings on land surrounding the mall. Construction is expected to begin in late 1985 and be completed by October 1987. If the City Council approves, the project will include a 40-story office tower fronting Central Avenue, a 14-story office building near the main entrance of the existing mall and a six-story building toward the back of the 46 acre property. These three buildings would have 925,000 square feet of rental space. In addition, a 15-story hotel is planned for the southeastern corner of the property also fronting on Central Avenue, and would be rented to a major hotel chain. Finally, a 210,000 square foot, 14-story office facility will be constructed next to the St. Joseph's Hospital & Medical Center parking garage. Two six-story parking garages beside the mall will provide parking for cars using these facilities.

Gateway Square, another multi-million dollar project for Central Avenue was also announced late in January. Going up on two sides of Central Avenue at McDowell and connected by pedestrian walkways, the project will provide another 480,000 square feet of office and retail space. The west of Central part of the project will be under construction in May, but the east side will not be constructed until 1992. Patrick Properties is the developer, and space is planned for a public art forum to allow the Phoenix Art Museum across the street to present cultural shows.

Lincoln Resorts, a $75 million "Arizona Biltmore" style resort complex to be built near Lincoln Drive and Miller Road in Scottsdale, should be completed in about two years, according to the investment-banking firm of Fogel & Co., Inc. of Phoenix. The resort will cover a 29-acre parcel north of Lincoln Drive adjacent to the Arizona Canal, and a planned city 18-hole golf course in Indian Bend Wash. Lincoln Resorts hopes to win the bid to construct the city golf course. Fogel & Co., Inc. is working in partnership with Dahlberg Industries of Phoenix who have developed such projects as The Lakes in Tempe.

Sun State Savings is financing a $43 million project called The Ridge at Sedona. With 150 acres to be developed, it represents one of the last large privately owned parcels available for development in the area according to Parker Development Company developers. Located on Highway 179 in the village of Oak Creek, the development will contain 370 units; 59 single-family golf course lots, 67 townhome villas, 137 casitas, a resort hotel, an athletic club, a golf course and a 70,000 square foot shopping center.

Government/Defense - The U.S. Defense Contract Administration Services Dallas regional headquarters announced that Arizona ranked second in the region in 1984 in the receipt of defense contracts. More than $2 billion split among 5,266 contracts put Arizona second only to Texas in a region including Arizona, Texas, Oklahoma, Arkansas, Louisiana and New Mexico. The counts do not include contracts administered by a specific service, such as the Army, or contracts in this region but administered by other regions. For example, the Apache helicopter made in Mesa by Hughes Helicopters, presently based in Culver City, California, is administered by the Army and is not included in regional figures. Rank order in the region by firm included:

Texas Instruments, Inc.	$ 4 billion
Motorola, Inc.	958 million
Garrett Turbine Engine, Co.	496 million
Goodyear Aerospace	240 million
Garrett Pneumatic	116 million
Sperry of Alburqueque	116 million

The Arizona Air National Guard will hire 200 and add $17.4 million in construction at its Tucson-based unit. The new additions are in support of an expanded F-16 fighter squadron. The 162nd Tactical Fighter Group will receive an additional 24 F-16s over a period of years with the first six arriving in the fall of 1986.

Hughes Aircraft Co. in Tucson will add 500 to its present work force, if the Reagan Administration's 1986 defense budget line items for Phoenix, AMRAAM and Maverick missles are adopted by Congress. The items are budgeted in amounts expected by Hughes Aircraft, so staffing increases can proceed as planned during 1985 if no Congressional defense cuts are made to these items.

Manufacturing - Bowmar Instrument Corporation, originator of the first hand-held calculators, will be moving its headquarters from Acton, Massachusetts to Phoenix. The company is seeking an acquisition or a merger in the Phoenix area, and to be present in the Phoenix area within six to 12 months. Having long since abandoned production of calculators, the firm is now a manufacturer of precision electronic, and electromechanical products. Little or no new employment for Phoenix area residents will result from the move by Bowmar's small corporate staff.

Trade - Another Price Club cash-and-carry warehouse will be opened somewhere in the Phoenix area, Price Co. executives announced. The announcement was made in conjunction with a stockholders meeting held in Phoenix in January, the first meeting held outside of San Diego, the firm's home base.

A new Diamonds store will be opened somewhere in Arizona during 1985 according to corporate owners, Dillards Department Stores, Inc. Corporate strategy calls for one new store to the Diamonds chain each year within its Arizona and Nevada market territory.

Three new Bobby McGee's Conglomerations will open in 1985 in addition to two restaurants of a brand new concept soon to be tested. The new concept was developed by Muncy's U.S.A. Inc., a corporate affiliate of Bobby McGee's. If successful, the new concept will be further expanded by franchise. In addition, the original Bobby McGee's in Scottsdale will move to a new free-standing building north of its present site.

Perkins Restaurants Inc., a subsidiary of Holiday Inns plans to open 10 family-style restaurants in the Phoenix area within five years. Two will open this year -- one in Scottsdale and one in Mesa.

Transportation - Standard Aero Inc., a Minneapolis based aircraft maintenance company, opened shop in the former Republican Airlines hangar at Sky Harbor Airport. Company officials intend for the facility to be a $500 million operation within five years, and to employ 800 to 1000 within three years. At least 250 will be working within a year. The modified hangar will end Sky Harbor's dubious distinction as the only airport among the 20 busiest in the country lacking an airline-maintenance facility. Standard Aero, Inc. is a subsidiary of Federal Industries Ltd., of Winnipeg, Manitoba, Canada.

Layoffs - Ramada Inns Inc. eliminated 140 of 700 jobs on Friday, February 1 at its corporate headquarters in Phoenix. Desire for improved efficiency and profitability were cited as reasons for the intended layoffs. The action was expected to position Ramada for future growth and to enable focusing its human resources on priority areas of its business, according to Ramada's president.

Burr-Brown Corporation of Tucson dropped 210 of 280 temporary employees hired under contract through four temporary-help firms in late January. Layoffs came after a short-lived surge in orders that had built up over Christmas holidays. Greater stability for its permanent workforce of 1300 was cited as the reason for using contracted temporary help. The temporary employees had been working for periods ranging from three to eight months.

Tucson's Pacific Fruit Co., a wholly owned subsidiary of Southern Pacific Transportation Co., laid off 95 workers during February. Reasons given were lack of demand for refrigerated railway cars to carry fresh produce and frozen foods from California to the East, and strong competition from trucks. Low supply and consequent higher value of the current lettuce crop made truck transportation a more desirable mode, according to growers.

GenRad, Inc.'s Phoenix Service Products Division expected to layoff eight to 15 percent of its 350 employee workforce at January's end. The percentages were as specific as GenRad spokesmen could be about the Phoenix location, but 400 of 3,500 were cut from its worldwide operations including Phoenix.

Closings - The Heileman Brewing Co., Inc. of Phoenix announced it will close its facility at 150 S. 12th Street in mid-March. The loss of Arizona's only remaining brewery will eliminate 92 jobs. Heileman's brews Black Label, Colt .45 Malt Liquor, Mickey's Malt Liquor and Blatz, and is based in LaCrosse, Wisconsin. A need for improved economics of scale was cited as the reason for closing. The plant has only half the production capacity of other company plants around the country. Heileman's will consider expanding and reopening the plant if it seems feasible. The company has a desire to retain a presence in the Southwest. It will honor recall rights of former employees if it reopens within ten years.

Santa Fe railways division-crew change point in Seligman was terminated on February 5. Crews will no longer stop there on the Winslow to Needles run as they have for more than thirty years. Besides losing 12 clerical positions at the depot, the town will lose the lodging and restaurant business that the crew-change point provided.

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ARIZONA LABOR MARKET INFORMATION NEWSLETTER

Vol. X No. 4
April 1985

Unemployment Rate

Seasonally Adjusted
February*

ARIZONA	5.6%
Maricopa Co.	4.3%
Pima Co.	5.1%
UNITED STATES	7.3%

Consumer Price Index

National-January
1967 - Base Year

Wage Earner/Clerical
Worker - 312.6
% Chg. Yr. Ago 3.3

All Urban - 316.1
% Chg. Yr. Ago 3.6

Phoenix-4th Qtr.
1977 - Base Year

All Urban - 184.4
% Chg. Yr. Ago 5.9

Producer Price Index

National-January*
1967 - Base Year

All Commodities-309.8
% Chg. Yr. Ago 0.6

Finished Goods -292.7
% Chg. Yr. Ago 1.1

* Preliminary

OFFICE COSTS COMPARED TO OTHER EMPLOYEE COSTS

The following article is summarized from "A Comparison of Office Rental Costs and Employee Costs" by Mark Haeussler. Mr. Haeussler was a student of business administration at Arizona State University when this report was prepared in the fall of 1984. It has been successfully used as a marketing tool of the Fountainhead Corporate Park of Tempe and has been offered by that developer's director of marketing, Marcia B. Ellis, as information other office developers and leasors might find useful. The Research Administration is happy to reprint a synopsis here in the spirit of improved public/private sector cooperation that is an objective of the Arizona Department of Economic Security and the Division of Employment and Rehabilitation Services.

Office space costs can be legitimately viewed in comparison with other employee costs in making space purchase or lease decisions. Space costs are not the most expensive employee cost that an employer bears, but one of the major ones, ranking about third after salary and benefits, or fourth after salary, benefits and turnover. The rank differs depending on the occupation of the employee. The higher the rank of the employee the lower the rank of office rental costs relative to other costs, because office costs per employee vary only by the amount of space allotted. Even with an allotment of 1-1/2 times more office space for a professional employee than for a clerical employee, the office cost as a percentage of the professional employee's salary is less than as a percentage of clerical's.

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Ron Simon, editor

Actually, of all the employee costs of the six investigated by Haeussler's study, office space costs varied the least with the employee's position. "This is because the cost per square foot of space is fixed for the entire office...," Mr. Haeussler said.

In order to determine a unit cost of space per employee, Haeussler investigated costs of "Class A" space in the Camelback corridor. He determined that the cost per square foot ranged from $10 to $25. He then figured the weighted average cost to be $17.86 per square foot. Next, he estimated that the average space needed for each employee was 300 square feet. Space for one employee, then, would cost $5,358 per year or 300 times $17.86.

Other employee costs investigated by the study included common ones, such as salary and benefits, and some not so commonly known, such as turnover, time loss and absenteeism. Salary costs were taken from multiple sources, but most often from publications of the Administrative Management Society. Ten positions were listed ranging from a mail clerk with an average salary of $10,500 a year to a personnel director earning $41,800 on average. Benefit costs were from articles by Jerry Geisel in Business Insurance. Average benefit costs totaled $7,187 in 1982. The benefit package included retirement (FICA), unemployment and worker's compensation taxes as well as pensions, various kinds of leave, additional insurances, thrift plans, bonuses and education. Benefit costs were found to be almost 40 percent of salary costs.

The not-so-commonly-known costs of turnover, time loss and absenteeism were ferreted from private studies, and U.S. government publications. Turnover costs range from $500 for a clerical employee and $1500 for a secretary to $10,000 or more for a middle level manager. These figures were according to Eleanor Tedesco and Robert Mitchell, authors of Administrative Office Management, 1984. Time loss by office workers averaged four hours and twenty one minutes or 10.9 percent of worktime, a study of 330 companies showed. The study was reported in "Costliest Crime: Theft of Time," Computer Decisions, January 1984. Absenteeism has been reported by the U.S. Department of Commerce's Social Indicators III, 1980, to hold pretty constantly at 3.5 percent of worktime per year. The cost of that time, of course, varies with the occupation of the employee. For a secretary that cost is about $564 a year. There is no available information about costs of secondary effects when others are impeded from doing their job because someone is absent. The three costs of turnover, time loss and absenteeism, then, are significant, but not as costly as salary and benefits.

An interesting point raised in Mr. Haeussler's recommendations is that upscale office space may also be viewed as an employee benefit. He recommended additional research be conducted to determine how the quality of office space influences productivity. Perhaps another area for research would be to determine if more pleasant office space reduces some of the costs reported in his study. It seems intuitively probable that having pleasant surroundings would reduce turnover and absenteeism. It is not intuitively clear whether improved office space would decrease or increase time loss from wasted time. It is also possible that if employees were given a chance to choose among benefits, cafeteria style, they might choose upscale office space over other benefits offered. "Cafeteria benefits" are, afterall, becoming more widely offered every year. Additional research could indeed offer office space marketers, like the Fountainhead Corporate Park, some additional points for persuasion.

Ron Simon, editor

SUMMER HELP FOR TUCSON EMPLOYERS

Tucson area employers who can use an extra pair of hands during the summer can get help from the Pima Youth Placement Program (PYPP). Youth between the ages of 14 and 21 are available from PYPP by calling 881-7687. Calling that number puts you in contact with a pool of more than 1200 registered students from 17 area high schools. PYPP is a cooperative effort of the Tucson Unified School District, DES-Job Service and Tucson Manpower Development, Inc.

Services available to employers include:

- A free job listing service--PYPP services all 17 high schools in greater Tucson, and will post your job with the appropriate area school.
- Referral of only the number of students you desire to see.
- Interview scheduling and application prescreening as you desire.
- Special needs recruitment -- if you need someone to work odd hours, or that has a special license or skill, PPYP will contact the trade, business teacher or program whose students can meet your requirements.
- Information about wage and tax incentive programs and Arizona child labor laws upon request.
- Fast response -- PPYP's computer based registrant pool enables making referrals within 24 hours.

Here is an opportunity to get some of those postponed jobs accomplished at last. By placing young people on the job in the summer, you can help yourself, and help your schools to instill the work ethic in your area's youth.

Hiring youth of special classifications can win you special tax credits as well. "Economically disadvantaged summer youth" ages 16 and 17 employed during a 90-day period between May 1 and September 15 may entitle you to Targeted Job Tax Credit (TJTC). Although qualifying wages are limited to $3,000 per participant and the credit is limited to 85 percent of those qualifying wages, the credits may be accumulated and carried forward for up to 15 years, or backward for 3 years. If you intend to take the tax credit for hiring youth of this classification, be certain the youth are vouchered by a local Job Service office, or PYPP and that you have requested tax credit certification for each vouchered worker within five days of the worker's first day of employment. Certification for eligible workers may be obtained by mail from the TJTC Unit, 438 W. Adams, Phoenix, Arizona 85003.

◆

ARIZONA UNEMPLOYMENT INSURANCE ACTIVITIES - JANUARY 1985

	January 1985	December 1984	January 1984	% Change From One Year Ago
Arizona Claimants Served*	25,908	23,103	33,168	-29.9%
Arizona Average Weeks Unemployed**	8.5	9.0	9.7	-12.4%
Arizona Benefits Paid*	$ 8,954,292	$ 6,965,460	$ 9,882,100	- 9.4%
Arizona Trust Fund Balance	$212,568,755	$238,513,500	$163,587,294	+50.6%

*All Programs **UI Only

LABOR COSTS IN PHOENIX AND TUCSON

Is it less expensive to run a small business in Phoenix or Tucson? To the extent that business costs depend upon labor costs, the answer to this question may be found in the recently updated Small Employer Wage Survey.

This survey of Maricopa and Pima County employees with fewer than 100 employees was conducted in August 1984. Results are reported on wages paid in eight major industrial classifications: mining; manufacturing; construction; transportation, communications and public utilities; wholesale trade; retail trade; finance, insurance and real estate; and services.

For the construction contractor, one method to compare costs between the Phoenix and Tucson areas is to simply total the weighted average wage levels paid to the various trades occupations. Occupations such as carpenter, cement mason, electrician, painter, roofer and construction supervisor are included in the survey. Adding the 14 surveyed building occupations' weighted average wage rates reveals that Maricopa County's construction labor costs were 12.1 percent higher than Pima County's in August 1984. Only three construction trades -- electrician, painter and pipe fitter (plumber) -- were paid a higher weighted average wage in Pima County. The total average wage rates for all construction industry occupations (including managerial and clerical categories, for example, as well as building trades) was 11.7 percent higher in Maricopa County. Only seven job classifications were paid at a higher level in Pima County. The hourly weighted average wage rates paid in August 1984 for the building occupations in Maricopa and Pima counties were as follows:

	MARICOPA	PIMA
Bricklayer	$12.50	$ 8.90
Bulldozer Operator	13.32	10.98
Carpenter	10.73	8.61
Cement Mason/Finisher	10.93	9.21
Constr. Supervisor	14.37	14.10
Crane Operator	14.62	9.88
Dry Wall Applicator	10.37	9.05
Electrician	9.35	11.89
General Laborer	7.13	5.48
Painter	8.05	8.10
Pipe Fitter (Plumber)	10.51	11.44
Plasterer	10.26	7.50
Roofer	10.66	8.25
Sheet Metal Worker	9.79	9.52

Thinking of opening an auto repair shop? The total hourly weighted average wage rate for seven allied occupations in this sector was again higher in Maricopa County, a substantial 16.9 percent higher. Only two occupations, auto car-wash attendant and auto service station attendant, were paid more in Pima County. The hourly weighted average wage levels for these occupations follow:

	MARICOPA	PIMA
Auto. Body Repairer	$10.41	$ 6.52
Auto. Car-Wash Att.	3.68	4.43
Auto. Mechanic	9.51	8.65
Auto. Svc. Manager	11.67	9.99
Auto. Svc. Sta. Att.	5.04	5.47
Indus. Garage Worker	7.72	5.64
Parts (Dept) Manager	10.72	9.55

What about running a restaurant? Again, the total labor costs are less in Pima County, 8.2 percent less in August 1984. Only two food service occupations had higher weighted average wage rates in the Tucson metropolitan area -- dining room attendant and waiter/waitress. A list of food service occupations and their weighted hourly wage rates in Maricopa and Pima counties follows:

	MARICOPA	PIMA
Baker	$5.06	$4.33
Bartender	4.57	3.87
Chef	6.95	5.92
Cook	4.84	4.29
Counter Attendant	4.46	3.70
Dining Rm. Attendant	3.21	3.39
Host/Hostess	4.40	3.94
Kitchen Helper	3.86	3.80
Rest./Coffee Shop Mgr.	8.81	5.32
Short Order Cook	5.09	4.30
Waiter/Waitress	2.79	2.94

Of the total 124 same occupations surveyed in both counties in August 1984, only 26 showed overall higher hourly weighted average wage levels in Pima County. Interestingly, in the technical group of occupations, four of the eight reported job classifications recorded higher hourly average wage rates in Pima County. These four were drafter, estimator, mechanical engineering technician and radiologic technologist.

One of the major costs of doing business is the cost of clerical personnel. Totaling the two counties' hourly weighted average wage rates again shows employer expenses lower in Pima County by 10.5 percent. Below is the overall hourly weighted average wage levels of a representative list of clerical occupations in Maricopa and Pima counties.

	MARICOPA	PIMA
Accounting Clerk	$ 6.22	$ 5.42
Bookkeeper	7.48	6.90
Cashier	4.59	4.00
Clerk	5.46	4.96
Collector-Bill/Acct.	6.71	5.85
EDP Keypunch Operator	6.04	5.52
Legal Secretary	8.79	8.23
Order Clerk	5.85	5.57
Payroll Clerk	7.02	7.00
Receptionist	5.32	4.77
Ship./Rec. Clerk	6.03	5.23
Switchboard Operator	5.24	4.62

Only three of the 25 clerical occupations showed higher average wages in Pima County. These were executive secretary, stenographer and word processing machine operator.

Only in the costs of medical personnel were Maricopa and Pima counties close in total weighted average wage levels. However, of the eight job classifications compared, only two in Pima County recorded higher hourly weighted average wage rates, those of licensed practical nurse and radiologic technologist. The differential of the total hourly average wage levels between the counties was less than one percent, higher in Maricopa County. The largest average wage rate difference was recorded for medical secretary, 15.1 percent higher in Maricopa County in August 1984. These occupations and their wage levels follow.

	MARICOPA	PIMA
LPN	$6.96	$7.54
Pharmacist	13.30	13.23
RN	10.23	10.14
Med. Lab. Technologist	8.81	8.75
Med. Secretary	7.86	6.83
Nursing Assistant	4.26	4.23
Physician Assistant	6.72	6.20
Radiologic Techno.	8.18	9.17

What about the manufacturing sectors of the two counties, including occupations such as machine shop supervisor, plant (general) manager, production supervisor, purchasing officer, electronic technician, electronics assembler, packager, inspector and welder? Where are the labor costs lower for manufacturers as a whole? The answer is Pima County where the total of the hourly weighted average wage rates for 43 occupations was 8 percent less than in Maricopa County in August 1984. A partial list of the weighted average wage levels for the counties' manufacturing occupations follows.

	MARICOPA	PIMA
Custodial Worker	$5.14	$4.92
Electronics Assembler	5.22	4.01
Electronic Technician	8.19	7.39
Inspector	7.44	6.61
Machinist	8.98	8.04
Material Handler	$5.95	$5.19
Office Manager	8.81	8.04
Plant (Gen'l) Mgr.	16.17	13.67
Production Assembler	5.59	4.84
Production Supvr.	10.93	10.04
Purchasing Office	9.78	8.84
Sheet Metal Worker	8.27	10.77
Tool and Die Maker	10.68	12.04
Truck Driver - Light	5.58	6.97

Pima County's overall hourly total weighted average wage rate in August 1984 was 10.4 percent less than that of Maricopa County. This was for the same 124 occupations reported in both counties. These wage levels were $7.14 for Pima County and $7.88 for Maricopa County.

The 124 job classifications, grouped by occupational categories, resulted in the following weighted mean hourly wage rates in August 1984:

	MARICOPA	PIMA
Managerial	$12.62	$10.62
Professional	11.20	10.15
Technical	10.84	10.72
Service	3.88	3.68
Maint. & Prod.	8.07	7.37
Clerical	6.25	5.66
Sales	7.78	6.34
All	7.88	7.14

Changes in the weighted hourly average wage levels between 1983 and 1984, by occupational category and industry, are as follows:

OCCUPATIONAL GROUP	MARICOPA	PIMA
Managerial	0.7	-1.2
Professional	10.1	-0.8
Technical	2.3	1.8
Service	9.9	9.2
Maint. & Prod.	4.7	-0.5
Clerical	0.3	-1.7
Sales	-2.1	18.5
All	3.3	5.5

INDUSTRY	MARICOPA	PIMA
Construction	-1.5	2.8
Manufacturing	9.9	-8.8
T.C.P.U.	13.2	9.4
Wholesale Trade	2.1	5.1
Retail Trade	7.2	8.8
F.I.R.E.	-1.6	-0-
Services	13.9	15.3

Maint. & Prod. - Maintenance and Production
T.C.P.U. - Transportation, Communications and Public Utilities
F.I.R.E. - Finance, Insurance and Real Estate

Glede Kohler

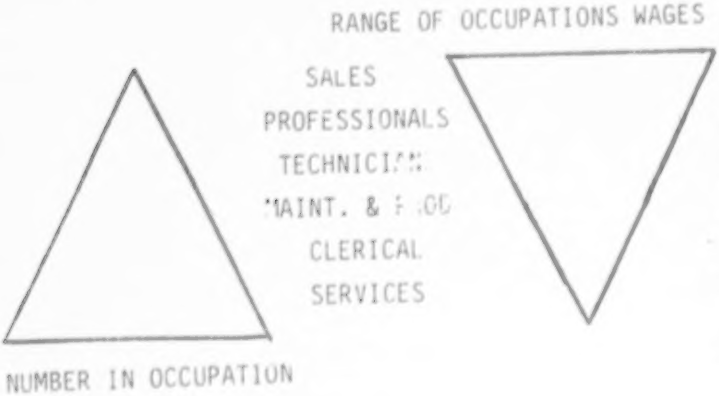
AREA AND INDUSTRY DIFFERENCES CAN MEAN PAY DIFFERENCES

Where can a capable office manager earn the most for the utilization of his skills and abilities? Is a personnel analyst making as much pay as he might in Maricopa County? Where are the highest wages in the Phoenix metropolitan area if your occupation is that of a material handler, sales route driver, clerk, secretary or general salesperson? Where will the utilization of one's occupational skills offer the greatest challenge and earn the largest reward in wages?

The Maricopa County Small Employer Wage Survey conducted in August, 1984 questioned employers about pay levels for those and other occupations. The survey queried various establishments in the seven industrial sectors of construction; manufacturing; transportation, communication and public utilities; wholesale and retail trade; finance, insurance and real estate; and services.

Wage rates differ among industries for the same occupation in relation to each job's degree of responsibility and the amount of control over people, places and things, and ultimately profits. The occupation's influence in reaching the final outcome or goal of the employer will affect the occupation's wage structure. Other factors include the degree of unionization of the industry the occupation is found in, and special employee expenses such as needed additional apparel, lifestyle change, etc. And, of course, the supply-demand situation for competent people will change average wage rates. Basic skills or abilities of a job holder may be the same in one industry as in another but there can be varying degrees of difficulty considered in the determination of an occupation's wage structure in differing industries or employers.

In many situations, the weighted average wage rate difference for the same occupation between the industries is large. (See table below.) Generally the higher the skill, pay or position level of the occupation, the greater the wage variance between industries. The greater the extent of the skill level required according to the demands of a job position in an industry or by an employer, the higher the occupations wage level will be. For example, the occupation of accountant's weighted average wage rate in the transportation, communication and public utilities industry was $9.25 per hour while in the finance, insurance and real estate sector it was $12.54 per hour in August, 1984. A custodial worker earned an average of $4.51 per hour in the services industry and $6.42 in the transportation, communication and public utilities segment of Maricopa County according to the results of the survey.



The extent of the wage and its range varies depending on a combination of factors, e.g., control over, effect of, proximity to and responsibility for a product and/or service. Also, the more individuals there are employed in a given occupation, the higher the wage level and the wider the wage range.

An office manager's weighted average wage rate is highest in the finance, insurance and real estate industry, where a highly volatile and number oriented environment is prevalent; and the lowest is in manufacturing, where the office business activity is generally of a more routine and structured nature. The sales manager position offers the highest wage rate in the manufacturing industry, bigger possible checks, and lowest in services firms, where there is a much less extensive and opportunistic sales business climate. The same rationale would apply to the general salesperson occupation, in which the highest average wage rate is in the construction industry, and the lowest is in the transportation, communication and public utilities sector.

A more complex and demanding business atmosphere drove the weighted average wage level of a programmer systems analyst in the outside contract oriented services industry to the highest; and held it to the lowest in the more routine and structured manufacturing industry.

The extent of unionization affects weighted average wage rates; for example, painter and sheet metal worker occupations, whose wage levels are highest in the highly unionized construction industry and lowest in the manufacturing sector.

The establishments in the retail industry paid the lowest in average wage levels for the occupations of payroll clerk and receptionist. These occupations are characterized by more routine and less demanding work environs. The opposite could be said in the highest paying industries for these two job classifications, payroll clerk in the manufacturing industry and receptionist in the transportation, communication and public utilities segment.

Generally, wholesale trade firms paid more for their managers while service establishments paid the least. Maintenance and production workers of the same occupations were reimbursed more by construction and transportation, communication and public utilities firms, and less by retail trade and service employers. The transportation, communication and public utilities industry also paid higher hourly wages for its clerical group of occupations while retail trade and finance, insurance and real estate employers, paid lower wages, according to the results from the small employer wage survey in Maricopa County in August, 1984.

The table on the following page lists the occupations in Maricopa County and their weighted average hourly wage levels for the industries if the wage rate's variance is over ten percent in August, 1984. These job classifications are listed alphabetically within their occupational clusters.

1984 MARICOPA COUNTY SMALL EMPLOYER WAGES BY INDUSTRY

	Industry	Constr.	Manuf.	T.C.P.U.	Wh. Tr.	Ret. Tr.	F.I.R.E.	Svcs.
Branch Mgr.	$18.32	$19.31	$19.94	$	$18.01	$12.88	$	$
Office Mgr.	10.63	10.23	8.81	10.56	11.08		12.69	
Parts(Dept.) Mgr.	10.72				12.16	10.54		7.57
Personnel Anal.	11.36		11.19	11.23	12.91	12.72	12.13	9.70
Plant Mgr.	17.08	20.36	16.17		16.87			
Sales Mgr.	14.04	15.40	17.27			14.04		12.59
Service Mgr.	11.29				12.45	10.32		10.11
Whse. Supr.	8.76		8.11	10.79	8.43			
Accountant	11.06	11.48	10.03	9.25			12.54	
Purch. Off.	10.89	12.94	9.78	12.35			8.74	
Sys. Anal.	14.78		11.62		11.34			15.46
Trng. Spec.	11.68			6.55			16.14	10.50
Estimator	13.34	13.84	11.11					
Lab Tester	8.99		10.38					6.35
Programmer	14.10		11.03				12.34	15.21
Bartender	4.57					4.50		5.02
Chef	6.95					6.69		7.70
Cosmetologist	4.97					5.67		4.95
Counter Att.	4.46					4.51		3.79
Waiter/ress	2.79					2.70		3.72
Auto Body Repr.	10.41					11.34		7.83
Comp. Opr.	7.78		7.73	9.11	6.66	6.14	8.37	8.83
Custodial Wkr.	4.83		5.14	6.42	5.00	4.83	5.89	4.51
Electrician	9.35	9.25		14.54				
Gnl. Laborer	7.13	7.22				4.79		
Indus. Gar. Wkr.	7.72				8.11			7.21
Maint. Mech.	10.05	11.04	10.07	8.68				
Material Handling	5.37		5.95	8.60	4.97			
Painter	8.05	8.48	5.76					
Sales Rte. Driver	6.22				6.49	8.22		5.33
Sheet Metal Wkr.	9.79	10.44	8.27					
Trk. Driver-Hvy.	10.21	10.22	7.60	11.94	8.87	7.32		6.47
Trk. Driver-Light	6.09	7.49	5.58	6.99	5.64	5.92		5.44
Whse. Wkr.	5.62	6.03				5.45		
Acctg. Clerk	6.22		6.76			5.88		
Bookkeeper	7.48	7.45	7.63	7.18	7.83	7.61	6.64	7.58
Cashier	4.59				5.69	4.50		
Clerk	5.46	5.54	5.13	6.14	5.80	5.17	5.85	4.99
Dispatcher	8.09	9.35		8.65	7.65			7.37
Exec. Secr.	8.76	9.09	8.42	10.18			8.23	
File Clerk	5.19		5.12		5.79	4.44		
Keypunch Opr.	6.04		6.37	6.72	6.12		5.11	5.97
Order Clerk	5.85		6.75		6.03	5.15		
Order Filler	5.85				5.92	5.16		
Payrol Clerk	7.02	7.19	7.63		7.40	5.87		
Receptionist	5.32	5.41	5.42	5.72	5.18	4.62	5.48	5.36
Secretary	6.68	6.98	6.96	7.33	6.30	6.88	6.14	6.62
Stenographer	6.47						5.69	7.69
Switchboard Opr.	5.24	6.63	5.64	4.45	5.50	5.50	5.54	5.06
Gnl. Salesperson	8.80	14.03	10.61	6.84	9.70	7.25		
Parts Cntr. Pers.	7.10				7.76	6.44		7.07

THE ARIZONA LABOR FORCE IN FEBRUARY 1985

Unemployment increased in Arizona for the third consecutive month in February, but the rise was very small compared to the jump in unemployment we observed in January. With the rate now 1.3 percentage points above the record low of 4.3 percent recorded in November, it is unlikely that unemployment will fall below 5 percent again in the near future. Two factors are contributing to rising unemployment in Arizona: a rapidly expanding labor force and a slowing rate of growth in job opportunities around the state.

Despite higher unemployment rates in nine of the state's 15 counties, some sectors of the economy continued to perform well. Jobs in construction increased by 800 during February, a response to improving weather conditions in the state and the relative stability of the nation's financial markets. In the Phoenix metropolitan area, where much of the building activity is concentrated, nearly 1,000 construction jobs were added during the month, reflecting the high volume of home building and commercial construction in the area. It is too soon to determine whether the recent rise in long term interest rates will have a negative effect on construction employment in Arizona, which now stands at a record high of 104,300.

Maricopa County also captured most of the 400 new manufacturing jobs created in Arizona last month. Nearly all of the increase was registered in the durable goods sector, with producers of heating and cooling equipment and defense contractors accounting for much of the gain. Hiring activity among high technology companies has slowed considerably, however, as reports of softening demand for electronic components become more frequent. The abrupt loss of over 600 jobs in business services may be a sign that Arizona's manufacturing firms are responding by using fewer workers provided by temporary help agencies. Should market conditions fail to improve soon, electronics firms may be forced to lay off permanent staff or to cut back production work schedules. With the state's average work week in manufacturing at 40.7 hours, large scale layoffs are unlikely to occur in the near future.

Although the unemployment rate in Pima County remained unchanged at 5.1 percent in February, 200 mining jobs were lost. Despite a strong, sustained economic expansion, copper demand has languished, leaving the outlook for employment opportunities in Arizona's copper mines very bleak. Otherwise, the Tucson area economy remains strong, with rising employment in construction and expected seasonal increases in hotels, restaurants and miscellaneous services observed in February.

The pace of economic growth is moderating in Arizona. Over 14,000 wage and salary jobs were added statewide last month; 3,400 of them were created in the nonmetropolitan counties. This compares to about 23,000 wage and salary positions added during February 1984. The next few months should bring continuing moderate growth. Employment throughout the state should continue to increase, but at a slower rate than last year. The expansion of job opportunities in the financial, trade and service sectors may be offset by a slowdown in manufacturing and reduced construction activity due to a potential surplus of multi-family housing and office space. As a result, unemployment may rise gradually in response to the Arizona labor force growing faster than the number of job opportunities in the state.

Brian Cary

Arizona Labor Force and Employment

February 1985 (in thousands)

	ARIZONA				
				-- Amt Change --	
	Feb.* 1985	Jan. 1985	Feb. 1984	Jan. to Feb.	1984 to 1985
TOTAL CIVILIAN LABOR FORCE	1477.6	1472.1	1411.0	+5.5	+66.6
Total Unemployment	83.2	82.0	81.8	+1.2	+1.4
Rate	5.6	5.6	5.8	---	---
Rate (Sea. Adj.)**	5.6	5.5	5.7	---	---
Total Employment	1394.4	1390.1	1329.2	+4.3	+65.2

THE ABOVE LABOR FORCE STATISTICS SHOULD

NONAGRICULTURAL WAGE AND SALARY EMPLOYMENT BY PLACE OF WORK

	Feb.* 1985	Jan. 1985	Feb. 1984	Jan. to Feb.	1984 to 1985
TOTAL WAGE AND SALARY	1240.2	1225.6	1149.9	+14.6	+90.3
Manufacturing	178.9	178.5	164.8	+0.4	+14.1
Durable Goods	141.8	141.4	129.4	+0.4	+12.4
Stone, Clay and Glass	7.6	7.6	7.1	+0.0	+0.5
Primary and Fabricated Metals	16.8	16.7	15.3	+0.1	+1.5
Primary Metals	7.2	7.2	6.6	+0.0	+0.6
Fabricated Metals	9.6	9.5	8.7	+0.1	+0.9
Machinery	71.7	71.6	65.2	+0.1	+6.5
Other Durable Goods	45.7	45.5	41.8	+0.2	+3.9
Aircraft and Missiles	20.6	20.5	18.9	+0.1	+1.7
Lumber and Wood Products (Except Furniture)	7.0	7.1	6.8	-0.1	+0.2
All Other Durable Goods	18.1	17.9	16.1	+0.2	+2.0
Nondurable Goods	37.1	37.1	35.4	+0.0	+1.7
Food and Kindred Products	7.9	8.0	7.7	-0.1	+0.2
Apparel	4.8	4.9	5.0	-0.1	-0.2
Printing and Publishing	14.2	14.1	12.9	+0.1	+1.3
All Other Nondurable Goods	10.2	10.1	9.8	+0.1	+0.4
Mining and Quarrying	12.3	12.5	14.1	-0.2	-1.8
Copper Mining	9.5	9.7	11.2	-0.2	-1.7
Other Mining and Quarrying	2.8	2.8	2.9	+0.0	-0.1
Construction	104.3	103.5	88.1	+0.8	+16.2
Trans., Communications, and Public Utilities	63.0	62.2	59.0	+0.8	+4.0
Transportation	29.2	28.8	26.6	+0.4	+2.6
Communications and Public Utilities	33.8	33.4	32.4	+0.4	+1.4
Trade	302.3	301.3	277.5	+1.0	+24.8
Wholesale Trade	62.2	61.9	56.4	+0.3	+5.8
Retail Trade	240.1	239.4	221.1	+0.7	+19.0
General Merchandise and Apparel	40.5	41.1	38.1	-0.6	+2.4
Food Stores	36.5	36.3	34.2	+0.2	+2.3
Automotive and Service Stations	28.2	28.1	26.0	+0.1	+2.2
Eating and Drinking Places	83.5	82.0	76.9	+1.5	+6.6
Other Retail Trade	51.4	51.9	45.9	-0.5	+5.5
Finance, Insurance, and Real Estate	74.0	73.7	69.2	+0.3	+4.8
Services and Miscellaneous	288.2	284.8	265.1	+3.4	+23.1
Hotels and Other Lodging Places	30.7	30.0	26.8	+0.7	+3.9
Business Services	63.9	64.5	56.8	-0.6	+7.1
Health Services	70.3	69.8	68.1	+0.5	+2.2
Other Services	123.3	120.5	113.4	+2.8	+9.9
Government	217.2	209.1	212.1	+8.1	+5.1
Federal	39.6	39.5	38.1	+0.1	+1.5
State and Local	177.6	169.6	174.0	+8.0	+3.6
School	107.8	100.3	107.5	+7.5	+0.3

* Preliminary

** Normal seasonal variations have been eliminated to reflect underlying economic trends.

NOTE--Prepared in cooperation with the U.S. Department of Labor,Bureau of Labor Statistics.

Arizona Labor Force and Employment

February 1985 (in thousands)

MARICOPA COUNTY					PIMA COUNTY				
			-- Amt Change --					-- Amt Change --	
Feb.* 1985	Jan. 1985	Feb. 1984	Jan. to Feb.	1984 to 1985	Feb.* 1985	Jan. 1985	Feb. 1984	Jan. to Feb.	1984 to 1985
939.2	936.1	889.0	+3.1	+50.2	269.0	269.1	258.1	-0.1	+10.9
40.2	40.0	39.4	+0.2	+0.8	14.0	14.0	14.1	+0.0	-0.1
4.3	4.3	4.4	---	---	5.2	5.2	5.5	---	---
4.3	4.2	4.4	---	---	5.1	5.1	5.4	---	---
899.0	896.1	849.6	+2.9	+49.4	255.0	255.1	244.0	-0.1	+11.0

T BE USED FOR ECONOMIC ASSISTANCE PROGRAMS.

NONAGRICULTURAL WAGE AND SALARY EMPLOYMENT BY PLACE OF WORK

813.6	804.2	748.9	+9.4	+64.7	224.9	223.2	209.3	+1.7	+15.6
131.0	130.6	119.7	+0.4	+11.3	29.9	29.8	27.7	+0.1	+2.2
105.3	105.1	95.0	+0.2	+10.3	25.0	24.8	22.9	+0.2	+2.1
4.7	4.7	4.2	+0.0	+0.5					
11.1	11.0	9.7	+0.1	+1.4					
58.0	57.9	52.4	+0.1	+5.6					
31.5	31.5	28.7	+0.0	+2.8					
25.7	25.5	24.7	+0.2	+1.0	4.9	5.0	4.8	-0.1	+0.1
5.3	5.3	5.3	+0.0	+0.0					
2.7	2.8	3.1	-0.1	-0.4					
10.6	10.4	9.4	+0.2	+1.2					
7.1	7.0	6.9	+0.1	+0.2					
0.6	0.6	0.6	+0.0	+0.0	2.6	2.8	3.6	-0.2	-1.0
73.3	72.3	60.8	+1.0	+12.5	19.1	19.1	17.2	+0.0	+1.9
41.1	40.7	38.4	+0.4	+2.7	8.9	8.7	8.5	+0.2	+0.4
19.9	19.6	18.1	+0.3	+1.8	4.1	3.9	3.9	+0.2	+0.2
21.2	21.1	20.3	+0.1	+0.9	4.8	4.8	4.6	+0.0	+0.2
205.8	205.0	188.8	+0.8	+17.0	49.8	49.9	46.0	-0.1	+3.8
48.6	48.4	44.4	+0.2	+4.2	7.1	7.1	6.4	+0.0	+0.7
157.2	156.6	144.4	+0.6	+12.8	42.7	42.8	39.6	-0.1	+3.1
25.6	25.9	24.2	-0.3	+1.4	8.0	8.1	7.5	-0.1	+0.5
23.4	23.3	21.9	+0.1	+1.5	5.7	5.7	5.5	+0.0	+0.2
18.0	17.9	16.4	+0.1	+1.6	4.4	4.5	4.2	-0.1	+0.2
54.2	53.1	50.0	+1.1	+4.2	15.8	15.7	14.4	+0.1	+1.4
36.0	36.4	31.9	-0.4	+4.1	8.8	8.8	8.0	+0.0	+0.8
57.6	57.4	54.3	+0.2	+3.3	10.5	10.4	9.5	+0.1	+1.0
197.2	194.8	181.3	+2.4	+15.9	53.7	52.9	48.4	+0.8	+5.3
19.3	18.8	16.5	+0.5	+2.8	5.0	4.9	4.3	+0.1	+0.7
51.9	52.7	47.7	-0.8	+4.2	9.2	9.1	7.2	+0.1	+2.0
48.1	47.6	46.0	+0.5	+2.1	14.0	14.0	14.0	+0.0	+0.0
77.9	75.7	71.1	+2.2	+6.8	25.5	24.9	22.9	+0.6	+2.6
107.0	102.8	105.0	+4.2	+2.0	50.4	49.6	48.4	+0.8	+2.0

-- Prepared by Labor Market Information, Research and Analysis (CPS, 1/85)

NONMETROPOLITAN COUNTIES LABOR FORCE AND EMPLOYMENT FEBRUARY 1985

	Apache	Cochise	Coconino	Gila	Graham	Green-lee	La Paz
TOTAL CIVILIAN LABOR FORCE*.	15,750	29,175	36,525	13,200	7,975	3,275	4,700
Total Unemployment	2,375	2,450	3,200	1,800	1,050	500	600
Rate	15.1%	8.4%	8.8%	13.6%	13.2%	15.3%	12.8%
Rate (Seas. Adj.)**. . . .	14.7%	8.1%	8.4%	13.3%	13.2%	14.4%	-INA-
Total Employment	13,375	26,725	33,325	11,400	6,925	2,775	4,100

THE ABOVE LABOR FORCE STATISTICS SHOULD NOT BE USED
FOR ECONOMIC ASSISTANCE PROGRAMS

	Apache	Cochise	Coconino	Gila	Graham	Green-lee	La Paz
TOTAL WAGE AND SALARY. . . .	14,500	22,700	32,700	9,650	4,575	2,775	2,550
Manufacturing.	675	1,775	2,400	1,225	150	125	75
Mining and Quarrying	25	200	50	1,600	50	1,550	0
Construction	1,275	1,275	1,575	400	125	100	75
Trans., Comm., & Pub. Util..	1,800	1,425	2,825	300	150	50	50
Trade.	1,225	4,875	7,425	1,875	1,300	300	825
Fin., Insur., & Real Estate.	250	650	700	225	125	25	125
Services and Miscellaneous .	3,725	2,975	7,125	1,800	725	100	650
Government	5,525	9,525	10,600	2,225	1,950	525	750

	Mohave	Navajo	Pinal	Santa Cruz	Yavapai	Yuma
TOTAL CIVILIAN LABOR FORCE*.	23,750	25,175	32,525	8,800	33,175	35,350
Total Unemployment	2,475	3,425	3,775	1,000	2,400	3,925
Rate	10.4%	13.6%	11.6%	11.4%	7.2%	11.1%
Rate (Seas. Adj.)**. . . .	9.8%	12.8%	11.8%	13.1%	6.7%	-INA-
Total Employment	21,275	21,750	28,750	7,800	30,775	31,425

THE ABOVE LABOR FORCE STATISTICS SHOULD NOT BE USED
FOR ECONOMIC ASSISTANCE PROGRAMS

	Mohave	Navajo	Pinal	Santa Cruz	Yavapai	Yuma
TOTAL WAGE AND SALARY. . . .	16,750	17,750	25,675	8,175	19,325	24,175
Manufacturing.	2,150	1,650	3,475	750	2,150	1,500
Mining and Quarrying	225	1,125	3,700	0	475	50
Construction	1,400	775	850	250	1,800	2,025
Trans., Comm., & Pub. Util..	1,125	1,600	1,225	575	925	900
Trade.	4,800	3,150	4,575	3,700	5,025	7,550
Fin., Insur., & Real Estate.	875	325	650	225	800	850
Services and Miscellaneous .	3,350	4,525	2,725	1,175	3,650	4,800
Government	3,150	4,600	8,475	1,500	4,500	6,500

*Adjusted to the Current Population Survey (CPS) to reflect place of residence.
**Seasonal adjustment not applicable for economic assistance programs.

NOTE--Series for Yuma and La Paz counties start January 1983. Data are not comparable to any past series.

Prepared in conjunction with the U.S. Department of Labor, Bureau of Labor Statistics.

ARIZONA LABOR FORCE AND EMPLOYMENT FOR ECONOMIC ASSISTANCE PROGRAMS
JANUARY 1985

County	Civilian Labor Force	Employment	Unemployment	Rate
Statewide	1,472,098	1,390,093	82,005	5.6%
Apache	16,022	13,767	2,303	14.3
Cochise	29,177	26,725	2,452	8.4
Coconino	34,887	31,575	3,312	9.5
Gila	13,248	11,480	1,768	13.3
Graham	7,877	6,911	976	12.4
Greenlee	3,293	2,818	475	14.4
La Paz	4,730	4,089	641	13.6
Maricopa	936,069	896,088	39,981	4.3
Mohave	23,513	21,104	2,409	10.2
Navajo	25,014	21,787	3,227	12.9
Pima	269,134	255,258	13,876	5.2
Pinal	32,176	28,540	3,589	11.2
Santa Cruz	8,812	7,805	1,007	11.4
Yavapai	33,313	30,875	2,438	7.3
Yuma	34,772	31,221	3,551	10.2

These figures are the only official BLS labor statistics to be used for revenue sharing purposes. They are not designed to be used as economic indicators. Note: Series for Yuma and La Paz counties start January 1983. Data are not comparable to any past series.

ESTIMATED HOURS AND EARNINGS OF PRODUCTION WORKERS IN SELECTED INDUSTRIES IN ARIZONA
FEBRUARY 1985

INDUSTRY	AVERAGE WEEKLY EARNINGS			AVERAGE WEEKLY HOURS			AVG. HOURLY EARNINGS		
	FEB.* 1985	JAN. 1985	FEB. 1984	FEB.* 1985	JAN. 1985	FEB. 1984	FEB.* 1985	JAN. 1985	FEB. 1984
FOR THE STATE OF ARIZONA*									
Manufacturing	389.91	384.86	374.95	40.7	40.3	40.8	9.58	9.55	9.19
Aircraft & Missiles	INA	INA	INA	INA	INA	INA	INA	INA	INA
Food & Kindred Products	325.21	301.10	312.58	40.1	40.2	38.4	8.11	7.49	8.14
Primary Metals	488.04	519.79	474.39	39.2	40.2	38.6	12.45	12.93	12.29
Machinery	363.53	346.06	338.92	39.6	40.1	40.3	9.18	8.63	8.41
Copper Mining	565.97	579.76	562.55	41.8	41.5	42.4	13.54	13.97	13.27
Construction	440.01	445.81	411.41	37.1	37.4	35.9	11.86	11.92	11.46
Utilities	599.42	599.42	524.10	44.8	44.8	43.1	13.38	13.38	12.16
Retail Trade**	226.80	226.80	225.08	32.4	32.4	32.2	7.00	7.00	6.99
Wholesale Trade	347.07	346.14	343.01	37.4	37.1	39.7	9.28	9.33	8.64

* Preliminary

** Excludes eating and drinking places.

NOTE--These estimates are based on a sample of full and part-time production and related employees whose payroll and hours are reported for the pay period which includes the 12th of the month. Prepared in cooperation with the U.S. Department of Labor,Bureau of Labor Statistics.

--Prepared by Labor Market Information, Research and Analysis (1972 SIC, 1/84)

LMI MANDATED BY TRAINING PROGRAMS

The following article by U.S. Bureau of Labor Statistics Commissioner Janet Norwood is reprinted from this year's annual international issue of The IAPES News. The International Association of Personnel in Employment Security (IAPES) is a professional association for Job Service, Unemployment Insurance, Labor Market Information, and related program personnel.

Implementation of the Job Training Partnership Act of 1982 (JTPA) brought a new direction not only for America's employment and training programs but also for the programs that form -- with the Employment Service and the Unemployment Insurance System -- the "third leg" of the Employment Security Stool -- the Labor Market Information programs. The JTPA legislation gave a formal mandate and set a new course for Labor Market Information (LMI), going well beyond the mandate set for LMI in previous omnibus employment and training legislation. JTPA institutionalized LMI as an integral part of the employment and training effort. It also assigned additional responsibility for developing labor market information programs to the states and spelled out an enlarged role in the LMI program for the Department of Labor's Bureau of Labor Statistics.

Labor Market Information involves data that describe the scope and nature of national, state and local labor markets to aid in helping people find jobs. That is a broad mandate, involving the preparation and delivery of information for economic and social analysis as well as the data needed for day-to-day operations of the employment and training effort at the local level. JTPA defined the system to enable more success for persons seeking work, calling on the Department of Labor, through the state governors, to implement an information system that includes data on labor supply (population, employment and unemployment) and labor demand (industries, establishments and occupations) in a way that would help people find work.

Federal-State Partnership

Labor Market Information in the United States has traditionally been managed in a cooperative federal/state environment where the roles of the federal and state partners are well defined. This has been the form for doing business since 1917, when the first agreements between the Bureau of Labor Statistics and state agencies (preceding the establishment of the Employment Security System) were signed to provide a common approach to LMI. The program has evolved over the years into a mature relationship under which the Bureau of Labor Statistics provides technical oversight, a common set of definitions, statistical sampling and estimation standards, and the states collect the data for the states and the federal government. In this way, data are consistent from state to state so comparisons can be made between states, information linkages across state borders can be established and the state Employment Security agencies can use common tools from a common source to support the data collection capability and local data analysis needed. In this way, each of the partners in the cooperative LMI system contributes to overall objectives in the most effective manner. The federal/state cooperative statistical system makes sense for a number of other reasons, including the fact that duplication of reporting burden on businesses is avoided since one collection provides data used at all levels of government.

Within the state Employment Security agencies, the primary responsibility for the labor market information system has been assigned to organizations with various titles -- reseach and analysis units, Labor Market Information offices, information services divisions and the like. Although these organizations have different names and are located in different places in the organization of the SESA, they share common missions and functions, and common approaches. In most states the research director who heads the unit within the state organization wears a second hat. The research chief also serves as a sworn but unpaid employee of the federal government with responsibility for safeguarding the confidentiality of responses from establishments and other reporting organizations. The system has proven to be efficient and cost effective over the years. The states, which have an extensive local office network and manage the Unemployment Insurance System, have available the on-site resources needed to understand the operation of the labor market at the local level and have access to the data on employers and workers covered by Unemployment Insurance that serve as an important component of Labor Market Information programs at all levels. In the specialized field of local Labor Market Information, the state Employment Security agencies have the expertise, access to information and statistical resources necessary to carry out the functions in partnership with the Bureau of Labor Statistics.

Data Uses

The cooperative approach to the Labor Market Information program permits the needs of the governments at all levels (federal, state and local) and a variety of users to be met with one comprehensive source of labor market data. The LMI system provides a rich variety of data that are used for the following management purposes: program, planning, program evaluation, economic analysis, economic development, funding and resource allocation, job placement, job development, job search assistance, employability development, vocational counseling and the administration of the work test for program eligibility.

In addition, data from these cooperative programs provide the nation as a whole with data essential for the evaluation of the country's labor market policies. For example, monthly data on employment by industry for states and areas are closely watched to monitor the impact of government programs for economic development, trade adjustment assistance and tax policy. In some cases, the data find direct use as an indicator of the performance of the overall economy. For instance movements in the data on average weekly hours of work consistently signal swings in the business cycle and are a component of the federal government's index of leading economic indicators.

The data have important uses aside from the uses by governments at all levels. Business firms, labor unions, trade associations, private research organizations and university research units use Labor Market Information to study economic conditions and to develop plans for the future. Businesses use the employment, hours and earnings series for guidance in plant location, sales and purchase decisions. Also, firms negotiating long term supply or purchase contracts often use escalation clauses based on the average hourly earnings series as an aid in reaching agreements to adjust wages. In conjunction with trends in other economic series, the employment and hours series is used in computing measures of productivity of the economy.

Data Available

The Department of Labor sponsors a number of major Labor Market Information programs that provide support to the Employment Security agency programs:

- Data are provided on people--their characteristics and economic status--and on conditions in the local labor markets. For the most part, demographic and economic information on the population is derived from the decennial Census of Population and Housing. At the state level and for large metropolitan areas, annual information is available from the U.S. government's Current Population Survey. Payroll employment in nonagricultural industries is available monthly by major industry division for each state, Puerto Rico and the Virgin Islands, and for 245 local areas through the Current Employment Statistics program. This monthly survey of more than 200,000 establishments throughout the nation also makes available data on hours and earnings of production workers on manufacturing payrolls for each state, Puerto Rico and the Virgin Islands, and for 178 local areas. Trends in the local labor demand picture are available for states and large areas, in more detail, and for the county level on a quarterly basis from the Unemployment Insurance employment and wages reporting program. The industry and occupational profiles are available from the Occupational Employment Survey. These occupational data are then combined with information on industry trends to provide the basis for industry/occupational matrices, which can be useful in projecting future demand by occupation. This information is extensively used in employment and training program management to select occupations in which to train persons and to evaluate the effectiveness of training efforts.

- To help people actually find jobs, more specific data are required than are generally available from statistical compilations and surveys. Often data are needed for a specific labor market and tailored to individual circumstances. For the most part states manage the programs that address this need, developing data on job openings from current listings of job openings by occupation and area (including those that are shared from area to area) and specific information on firms, their occupational composition, working conditions and wages so as to facilitate the efficiency of the individual job search. With increasing automation of the Job Service in United States, some very innovative and responsive uses of job openings information have been developed for local use. The increasingly useful database on employers has permitted states to develop locally devised systems such as the Employer Information Service (EIS), which brings together information on the employment history of the local business from the Unemployeemnt Insurance System with data from operational experience of the local Employment Service.

Program Coordination

A complementary system for coordinating the efforts of many agencies in order to get information to program agencies and job seekers is provided in the United States by the National Occupational Information Coordinating Committee (NOICC) and its state counterparts, the State Occupational Information Coordinating Committees (SOICC). The NOICC works with agencies that provide data and those that use it in planning employment and training to plan and develop occupational information systems and career information delivery systems. NOICC also links the Employment Service agency in a formal way to the vocational education systems, which has the need for much the same kind of information in order to plan and manage vocational education offerings.

An important part of any labor market information system is to make maximum use of the data available, to guide users to the best sources, and to package the information so that it is useful by a variety of users. This function is carried out in the United States by the NOICC/SOICC network. State Employment Security agencies are a member of the SOICC in each state, and in many states, the Employment Security agency houses the executive directorate of the SOICC.

Summary

Strong and relevant systems of Labor Market Information will not, in themselves, insure success in meeting the mandate of JTPA for bold and innovative programs keyed to local conditions, just as effective planning and management cannot insure the long term success of employment and training programs. But JTPA makes clear that without such a system to support these local efforts the programs have much less of a chance of succeeding. That is why today, more than ever before, Labor Market Information programs are an integral part of the total Employment Service and a part of the new direction of the employment and training system in the United States.

NEW DEVELOPMENTS

"New Developments" is featured each month as a service to employers and job seekers. It is a compilation of public announcements of the more significant new construction, grand openings, major hirings and layoffs and other employer events that have special significance for Arizona labor markets. The announcements are paraphrased and otherwise edited from articles published in newspapers and other periodicals from throughout the state. "New Developments" are limited to space available, and no attempt is made to compile an exhaustive list of all such events that have occurred during the month.

Construction - A new 23 story United Bank Tower will be built in Tucson. Construction is scheduled to begin in May. The Tower will be the city's tallest building, and will be part of a three-building, $150 million project to be known as the Tucson City Center. United Bank will move its southern division headquarters into 30,000 square-feet on the first and second floors. It will also lease executive office space on the 18th floor. The remaining two buildings of the project will be constructed within five years according to the Reliance Development Group Inc. of New York. Reliance is developing the project in partnership with Venture West Group, Inc.

Construction of a 42,000 square foot four story building to be called the Citadel has begun at Pinnacle Peak and Pima Roads in Scottsdale. It will be a $7 million office and retail center. Sundt Corporation is the general contractor, and completion is expected in November.

Laderman & Lohr have secured funding from BA Mortgage of Arizona, a BankAmerica Company, to build Midtowne Business Center III. It will be a 93,000 square foot, $14 million four story building at First Place and Earll Drive in Phoenix. Construction will begin in March and completion is expected by early 1986. The site is near Park Central Mall, an area of considerably more additional new development. Koll Co. is the general contractor.

The Corporate at Squaw Peak, a three-story structure on 4.2 acres at 7310 North 16th Street in Phoenix is to be constructed from April through January. Raco Development Corporation will build the $10.8 million office structure at its site less than a half-mile south of The Point at Squaw Peak. Raco executives claim the North 16th Street area is emerging as another very desirable corporate office corridor, because of its proximity to the Camelback and Central Avenue corridors.

Sierra Vista will more than double in size someday if Tenneco Corporation's development plan is approved by the Cochise County Board of Supervisors. Tenneco has filed for approval to develop 4,000 acres--more than six square miles--immediately adjacent to the city. If the development plan is approved it will enable additional growth of 40,000 people living in 18,000 new units. Tenneco has already begun developing 2,000 acres in a project known as Pueblo del Sol. There are 2,500 completed houses in that development, and Tenneco has invested $25 million putting in streets and utilities. Houston's Tenneco Corporation is a major land holder throughout Arizona controlling land totaling more area than all of Santa Cruz County. Tenneco views Sierra Vista as in the same stage Tucson was in in 1952 with potential for population growth to 100,000 by the year 2000. Supporting that potential is the presence of Fort Huachuca and the area's desirability as a retirement center, Tenneco officials claim.

The third unit of the St. Johns Coronado Generating Station will be constructed during 1986. Salt River Project's Coronado plant manager, Marshall Rice told the St. Johns' Regional Chamber of Commerce on January 21 that completion of engineering and design work is expected during 1985 with construction to begin during early 1986. Employment levels would then rise over three years peaking at 800 or 900 during 1989. After reaching that peak, construction employment would be reduced as completion is approached in 1991. The new unit should be ready for commercial operation on May 1 of that year. Added operations staff of 170 will be brought on board when the plant becomes operational. SRP also anticipates beginning to soon hire apprentices for training in 1986.

Manufacturing - Tucson's *Arizona Daily Star* polled executives of area electronic firms to learn of their expansion plans. AiResearch Manufacturing lead the list with expectations to add 900 jobs. AiResearch, a subsidiary of the Garrett Corporation, has broken ground on the first 350,000 square feet of an eventual million-square-foot plant at 1100 North Oracle Road. This electronic component manufacturer for military aircraft will employ 1,300 when the plant opens about this time of year in 1986. By 1993 the plant will employ 4,000. The company now has 403 workers at two sites in Tucson.

Unitronics, manufacturer of circuit boards, will add about 100 in 1985 according to one company executive. It has recently tripled its plant size to 62,000 square feet and hired 262 bringing its total employment to 495.

The *Arizona Daily Star* listed the following companies as Southern Arizona's Electronics Top 10 employers ranked by employment:

1.	IBM	5,500
2.	Burr-Brown	1,246
3.	National Semiconductor	700
4.	TEC	625
5.	Unitronics	526
6.	Hamilton Test Systems	470
7.	AiResearch Manufacturing	400
8.	West-Corp of Arizona	300
9.	Thor Electronics	222
10.	Vaeco Instruments	200
	General Instruments	200

Tucson's Hughes Aircraft Co. began construction on a 210,000 square-foot, two story, $22.5 million structure for its missle-manufacturing facility. When construction is completed, Hughes aircraft will occupy more than 1 million square feet of buildings. The new space will house a machine shop, assembly area, laboratory and offices.

A Korean hat manufacturing firm is negotiating with the Hopi Tribal Council for a site in a Hopi industrial park near Winslow. The Young An Hat Co. would build a 115,000-square-foot building and eventually employ 400 Hopis, if the lease agreement is approved by the Hopis and the U. S. State Department. The company already has seven plants worldwide, and is building an eighth in Costa Rica.

The Navajo Tribal Council is negotiating with the Lamb Weston Co. of Portland, Oregon for a french fry plant on lands of the Navajo Agricultural Products Industries. The Portland company proposes to buy its potatoes from the tribe. Michael Allison, director of economic development for the Navajos, has some concerns about requested up-front investment costs to the tribe of at least $1 million.

Mining - Magma Copper Co. announced plans on March 8, 1985, to spend $71 million to build a new open pit copper mine and leaching plant. It would build it near its present underground mine at San Manuel. Magma expects nearly 100 workers to be employed drilling and hauling ore from the open pit by the end of 1985. Another 50 will be added when a new solvent extraction-electrowinning plant is finished in mid-1986. Magma's parent, Newmont Mining Corporation's board of directors agreed with Magma engineers that the new open pit and leaching process could produce copper profitably even at today's prices--about $.65 a pound.

Layoffs - ITT Courier Terminal Systems announced plans in February to lay off 350 Tempe workers over a three month period. The layoffs were to begin in March. "Cost containment" was cited as the reason for the cutbacks. ITT had determined it was cheaper to subcontract for component assembly in Korea and Taiwan, than to assemble them here. About 1,350 ITT Courier employees will still be employed in the Valley, and some growth is also expected. Employment expansion will come in the areas of research and development, engineering, marketing, sales administration, sales, field support and administrative functions, said Jack Milligan, ITT Courier vice president of personnel. The company did plan to make some effort to place laid-off workers in other areas of the firm. ITT plans to keep its headquarters in Tempe.

Intel Corp. announced layoffs in February for its Deer Valley plant in Phoenix as well as for other of its plants on the west coast. Intel's plant at 2402 W. Beardsley Road was to lose 75 to 100 while another 500 were to be laid off in California and Oregon. Those laid off in Phoenix included managers, engineers, software designers and assemblers. An existing Intel plant in Chandler was not expected to be affected by the layoffs, but another Chandler plant under construction "will stand empty until business improves," according to Frank Vaugn, Intel public relation manager. The layoffs marked Intel's first personnel cuts in 11 years "during a particularly sluggish period in the semi-conductor industry," in the words of Dr. Gordon C. Moore, Intel's chairman and chief executive officer.

Burr-Brown Corp. laid off 37 regular employees after announcing layoffs of 267 temporary employees in February. The regular staff layoffs represented three percent of the firm's 1,260 employees. Burr-Brown Corp. is located at the Tuscon International Airport Industrial Park on South Tucson Boulevard.

Prescott's KVSK-TV (Channel 7) laid off 12 full-time employees and several part-time staffers on March 15 in a desperate bid to ramain solvent. News staff were affected, and the announcements signaled the end of local television news coverage.

Closings - Anaconda Minerals Co. announced plans in March to close its Tucson research center. Its 80 member work force is to be laid off between April 1 and October 1. A depressed metals market and a greater-than-needed research and development capacity were cited as reasons for the closing. Anaconda hopes to sell the 140-acre property, equipment and 174,000 square feet of buildings after the October closing.

The Thomson Co. is planning to close its Eloy plant. Its workforce of 170 will be laid off gradually until the plant's contracts are completed. Its parent company, Salant Corp. filed for financial reorganization under Chapter 11 of the U. S. Bankruptcy code.

REAL ESTA
STOCK MARKET
MONEY MARKET

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ARIZONA LABOR MARKET INFORMATION NEWSLETTER

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Unemployment Rate

Seasonally Adjusted
March*

ARIZONA	5.9%
Maricopa Co.	4.6%
Pima Co.	5.3%
UNITED STATES	7.3%

Consumer Price Index

National-February
1967 - Base Year

Wage Earner/Clerical Worker -	313.9
% Chg. Yr. Ago	3.5
All Urban -	317.4
% Chg. Yr. Ago	3.5

Phoenix-1st Qtr. 1985
1977 - Base Year

All Urban -	187.8
% Chg. Yr. Ago	5.9

Producer Price Index

National-March*
1967 - Base Year

All Commodities-	308.7
% Chg. Yr. Ago	-0.8
Finished Goods -	292.4
% Chg. Yr. Ago	0.3

* Preliminary

LABOR TURNOVER UPDATE

For some time now there has been no measure of labor turnover reported in Arizona on a regular basis. That's because the U.S. Bureau of Labor Statistics (BLS) lost funding several years ago for its routine monthly turnover survey of the manufacturing industry. That labor turnover survey program for years carried the identity of the shuttle form used to collect the turnover data from employers. It was called the "1219" program among BLS and cooperating state bureaucrats. Although the program had some deficiencies, i.e., it was limited to manufacturing and mining employment, and estimates from it were only as good as the small sample of responses were representative, it was the single available local measure of the incidence of quits, layoffs, new hires and rehires.

Fortunately since the demise of that survey program, another turnover measurement technique has been devised. The technique takes advantage of an increasingly more powerful tool many of us have come to know and love --the computer. Instead of (1) sampling a small fraction of employers of a mere two industries, (2) asking them to voluntarily report their employment turnover, (3) tabulating the responses, and (4) finally extrapolating the experience of the sample to the universe of manufacturing and mining employment, we can now simply count turnover directly.

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Ron Simon, Editor

Of course, we make a computer do the counting, because instead of dealing with a 1,000 responses on shuttle survey forms, we tabulate nearly two million employer records. Once programmed, the count can be done in minutes, not weeks as it formerly took during 1219 survey days.

But counting is only part of the process. Another part is categorizing the items to be counted. Doing that requires asking the question, what is labor turnover anyway? By the old 1219 program it was conceived to be divided among these components -- accessions (new hires and rehires) and separations (quits, layoffs and discharges). On the 1219 survey form, employers were simply asked, during the month just passed, how many employees were hired or recalled, and how many quit or were layed off, or discharged? Taking a count from existing records does not permit that kind of specification. Information present is limited to lists of employees by social security number for each employer, and the wages paid in the reported quarter to each employee. The report is made quarterly by employers subject to unemployment insurance tax. Because in Arizona, any employer of one or more paying wages for a specific minimum period, or amount, is subject to the tax, nearly all wage and salary employment is represented in the records. That employment is represented by individual social security numbers makes it possible to reconstruct labor turnover by at least some of the components formerly identified in the survey. By simply matching the records of employment by social security number in one quarter against those of a previous quarter, gross accessions and separations can be identified. That is, employees present in the current quarter but not in the previous quarter are accessions. Those present in the previous quarter, but not in the current quarter are separations. By making one more pass of an even earlier quarter, rehires can be separated from new hires. Rehires are those employees whose social security number appeared in the current quarter wage records of an employer, did not appear in the previous quarter, but were present in some quarter before that one. There is still no conceivable method to distinguish among quits, layoffs, or discharges among separations by this technique.

So by changing techniques, we trade off specification of separations by a monthly sample survey of two industries for a nearly complete quarterly count of separations and accessions for all industries. As an extra added benefit, the information can now also be derived by county. With the survey it was only available statewide and for the two major metropolitian counties.

In order to assuage the concern of those readers who may have fears in the use of this technique of the arrival of "Big Brother", something needs to be said here about protecting confidentiality. Both employers and employees are identifiable in the tape files, but their identities are protected from disclosure by summarizing all information by codes. Accessions and separations are reported merely as counts by Standard Industrial Clarification (SIC) by county. Although an individual can be followed from one employer to another, the only point in doing that for labor turnover statistics is to identify the total number and rates of new hires, rehires and separations. Individual and employer identities are left to reside in the tape files, and are never reported out in any way.

Table 1
Arizona Labor Turnover
by Quarter

	82/1	82/2	82/3	82/4
Employment	865,592	921,228	885,351	NA
Accessions	259,409	269,692	249,111	
New Hires	211,291	222,820	213,580	
Rehires	48,187	46,872	35,531	
Separations	305,118	247,786	307,111	

	83/1	83/2	83/3	84/4
Employment	892,013	890,158	918,383	909,141
Accessions	259,202	315,224	319,512	307,784
New Hires	215,276	278,070	280,780	257,933
Rehires	43,926	37,154	38,732	49,851
Separations	279,353	337,678	309,415	351,942

	84/1	84/2
Employment	943,099	999,909
Accessions	355,173	387,436
New Hires	308,082	322,958
Rehires	47,091	64,478
Separations	334,763	355,031

Table 2
Arizona Labor Turnover
Rates Per Hundred Employed
by Quarter

	82/1	82/2	82/3	82/4
Employment	100.0	100.0	100.0	NA
Accessions	30.0	29.2	28.1	
New Hires	24.4	24.2	24.1	
Rehires	5.6	5.1	4.0	
Separations	35.2	26.9	34.7	

	83/1	83/2	83/3	83/4
Employment	100.0	100.0	100.0	100.0
Accessions	29.1	35.4	34.8	33.9
New Hires	24.1	31.2	30.6	28.4
Rehires	4.9	4.2	4.2	5.5
Separations	31.3	37.9	33.7	38.7

	84/1	84/2
Employment	100.0	100.0
Accessions	37.6	38.7
New Hires	32.7	32.3
Rehires	5.0	6.4
Separations	35.5	35.5

On the other hand, the idea of following employees among employers raises new possibilites even for summarized nondisclosing reporting. It raises the possibility of being able to identify movement by employees among industries and among counties. In other words, where do they leave from and go to. Even summarized by county or by industry the potential information can be very enlightening. A recent Arizona Labor Market Information Newsletter (June 1984) study of mining employees was one very specific application of the technique. The reresulting information has potential application by employers, public administrators and job seeker's.

In fact, the Research Administration has been routinely running such reports since the second calendar quarter of 1982. Data are now available through the second quarter of 1984. (There is a lagged reporting requirement by employers making data unavailable until from three to six months after the close of the quarter.) A sample of some of the data and what is revealed follows.

Tables 1 and 2 show turnover through time (1st quarter 1982 to 2nd quarter 1984) by absolute amounts and rates per hundred employed at the beginning of each quarter. There are two remarkable facts revealed by a quick glance at these tables. The first is that there is a very high amount of turnover in any given quarter. The second is that the high amounts are relatively constant across the year.

The number of accessions statewide in the most recent period shown, (2nd quarter 1984), is more than 387,000 or nearly two out of every five jobs. There is ample evidence here that total turnover measured by either accessions or separations is more than 100 percent per year. In fact in 1983, measured by the number of accessions, the rate of turnover for the year was 135 percent.

Although there is some variation in accessions rates for the nine periods shown (the range is from 28.1 percent to 38.7 percent), the variation is not great. Separation rates are similar ranging from 26.9 percent to 38.7 percent during the two and a half years.

The range of variation by industry, on the other hand, as shown by Table 3 is far more substantial. Separations occurred at as low a rate as 6.7 per hundred employed in wholesale trade and as high as 104.8 percent in agriculture. That means it would take almost fifteen years for every job to turn over in wholesale trade while in agriculture every job would turnover more than four times in one year.

Looking now at the distribution of rates by county in Table 4, notice that while accession rates range from 11.8 percent in Greenlee County to 48.2 percent in Coconino County, the metropolitan total accession rate and the nonmetropolitan rate are identical at 38.8 percent. Since the new hire rates in both the metro and nonmetro areas are also nearly the same (32.5 versus 31.2), it can be safely stated that the relative number of job opportunities generated by turnover is proportionately equal in the rural and urban areas. At least that's true for the 2nd quarter of 1984.

"The Cost of Hiring," an article in a previous issue of the Arizona Labor Market Newsletter, (January 1985) suggests the significance of these rates of turnover in dollar terms. One estimate of hiring costs presented in the article was that it ranges from 7 to 20 percent of an hourly employee's first year's pay. Taking a "dry cleaner" as a typical hourly worker in the personal service industry, for example, total be estimated. According to the Research Administration's Small Employer 1984 Maricopa County Wage Survey, a dry cleaner's average hourly wage is $6.05. That translates to an annual wage of $12,584 for a 40 hour week. Seven percent of that cost is $880. Since the personal service industry showed a new hire rate of 40.4 percent in a quarter, the annualized rate is 161.6 percent. With 11,703 people in the industry, the number of new hires per year is 18,912. That times $880 is $16,642,560, not an significant figure by any measure. And since the range of hiring costs is really 7 to 20 percent of first year wages, the cost could be as high as $47,597,722 for the industry.

Estimating hiring costs from a more aggregate measure of wages to overcome concerns about using one occupation as the basis for an estimate gives similar high amounts. February 1985's table of "Estimated Hours and Earnings of Production Workers in Selected Arizona Industries" showed average weekly earnings in the retail trade industry of $225 in February 1984. That represents annual earnings of $11,700, and an annual payroll for the industry with 216,117 employees of $2,528,568,900. The most conservative estimate of hiring costs to the Arizona retail trade industry with an annualized new hire rate of 160.8 percent (4 × 40.2) is $284,615,715 or (.07 x 11,700) × (1.608 × 216,117). That new hire turnover cost is 11.3 percent of the annual industry payroll.

There is other significance to employers in these rates as well. An employer can compare his own experience with employee turnover to the industry "average" suggested by these tables. If his own turnover rates are substantially higher than the industry average, he may have management problems. For example, if the employer has a retail food store with a workforce of 80, and he had 13 separations (quits or discharges) per month during a recent quarter, his separation rate was 48.8 percent (3 × 13 divided by 80). Since the retail trade industry average separation rate is 43.8 percent, this store's experience is a little high. If the preponderence of separations were quits, the store manager should investigate working conditions, wages, or other factors that may be substandard for the industry and consider making appropriate adjustments On the other hand, if a manager of such a store has been worried because he had eight separations per month, he can take heart that he is doing better than the industry average (3 × 8 divided by 80 = 30.0 percent).

Finally, there is one additional potentially significant use for the labor turnover by industry data. It is potentially possible to make estimates of occupational turnover from the data. Of course, estimating requires making an assumption that personal experience tells us isn't completely true. The assumption we must make is that, in the absence of any other information, the industry turnover rate applies equally to all occupations employed by the industry. We know, of course, that when there are layoffs, production workers get layed off in proportionately greater amounts than managers or professionals. Unfortunately there are no readily available statistics to enable us to quantify the differences. Therefore, we apply our assumption. Table 5 shows the results of just such an estimating procedure applied to the "automotive repair services and garages" industry. One additional assumption, of course, is that the annualized 2nd quarter 1984 industry new hire rate will be the rate experienced in 1985.

An extraordinary conclusion from all of this is that the occupational opportunities resulting from turnover are more than 20 times the traditionally reported opportunities from growth and labor force separations. The implications of this for training programs and educational institutions are phenomenal. Because of the tremendous movement continually going on throughout the job market, there are hundreds of opportunities for job change or advancement in any given year. In fact, occupational demand has been substantially underreported by traditional methods. Even granting validity to the potential criticisim that using annualized 2nd quarter 1984 industry rate to 1985 may be inappropriate, if 1985 is not the growth year of 1984, adjusting it downward still leaves phenominally high numbers of opportunities. For instance, if the automotive repair services industry rate bears a relationship to the overall statewide new hire rate, the 2nd quarter 1982 statewide new hire rate implies an automotive repair services industry rate diminished to 1,216. Applying that factor to 1985 automotive repair services employment still implies 13,763 job opportunites, or 16 times the number of opportunites from growth and labor force separations.

One can only conclude from all of the foregoing that labor turnover rates have tremendous significance for understanding the workings of the labor market. Because there is now a reasonably efficient technique to derive them, they should be regularly reported for all who can put them to use. Hopefully, the Research Adminstration will have resources to make regular reporting possible. We would be interested in receiving user comments on these rates. Please write to the Newsletter address, or call me at 255-3871.

Ron Simon

> "...the occupational opportunities resulting from turnover are more than 20 times...the opportunities from growth and labor force separations."

Table 3
Arizona Labor Turnover
By Industry
2nd Quarter 1984

INDUSTRY	EMPLOYMENT		ACCESSIONS		NEW HIRES		REHIRES		SEPARATIONS	
	Amount	Rate	Amount	Rate	Amount	Rate	Amount	Rate	Amount	Rate
Agriculture	22,922	100.0	18,031	78.7	15,099	65.9	2,932	12.8	24,028	104.8
Mining	15,735	100.0	1,095	7.0	818	5.2	277	1.8	1,831	11.7
Construction	86,074	100.0	57,326	66.7	53,115	61.7	4,211	4.8	54,702	63.6
Manufacturing	155,344	100.0	32,290	20.8	29,519	19.0	2,771	1.8	32,614	21.0
Durable	122,931	100.0	22,754	18.5	21,380	17.4	1,374	1.1	24,375	19.8
Nondurable	32,413	100.0	9,536	29.4	8,139	25.1	1,397	4.3	10,344	25.4
T.C.P.U.*	54,980	100.0	9,336	17.0	8,480	15.4	856	1.6	10,344	18.8
Trade	252,262	100.0	103,163	40.9	95,443	37.8	7,720	3.1	97,013	38.5
Wholesale	36,145	100.0	9,308	25.8	8,595	23.8	713	2.0	2,427	6.7
Retail	216,117	100.0	93,855	43.4	86,848	40.2	7,007	3.2	94,586	43.8
F.I.R.E**	67,779	100.0	13,913	20.5	12,620	18.6	1,293	1.9	12,925	19.1
Services	282,996	100.0	145,795	51.5	102,118	36.1	43,497	15.4	110,076	38.9
Hotels & Motels	24,578	100.0	10,526	42.8	9,901	40.2	625	2.5	12,780	52.0
Personal Services	11,703	100.0	5,337	45.6	4,729	40.4	608	5.2	6,099	52.1
Business Services	53,643	100.0	39,831	74.2	36,940	68.9	2,891	5.4	36,894	68.8
Repair Services	13,769	100.0	6,040	43.9	5,600	40.7	440	3.2	5,937	43.1
Amusement & Recreation	11,113	100.0	5,294	47.6	4,352	39.2	762	6.8	6,566	59.0
Health Services	66,971	100.0	13,623	20.3	11,572	17.3	2,051	3.1	13,419	20.0
Legal Services	7,746	100.0	1,844	23.8	1,673	21.6	171	2.2	1,831	23.6
Educational Services	51,623	100.0	46,988	91.0	13,381	25.9	33,607	65.1	12,573	24.4
Miscellaneous	41,830	100.0	16,312	39.0	13,970	33.4	2,342	5.6	13,977	33.4
Public Administration	61,700	100.0	5,834	9.5	5,120	8.3	714	1.2	5,319	8.6

*T.C.P.U. = Transportation, Communication, and Public Utilities
**F.I.R.E. = Finance, Insurance, and Real Estate

Table 4
Labor Turnover By Area
2nd Quarter, 1984

AREA	EMPLOYMENT		ACCESSIONS		NEW HIRES		REHIRES		SEPARATIONS	
	Amount	Rate	Amount	Rate	Amount	Rate	Amount	Rate	Amount	Rate
Arizona	999,909	100.0	387,436	38.7	322,958	32.3	64,478	6.5	355,031	35.5
Metro	839,313	100.0	325,490	38.8	272,620	32.5	52,870	6.3	292,090	34.8
Maricopa	673,919	100.0	273,062	40.5	224,519	33.3	48,543	7.2	238,684	35.4
Pima	165,394	100.0	52,428	31.7	48,101	29.1	4,327	2.6	53,406	32.3
Nonmetro	147,154	100.0	57,069	38.8	45,974	31.2	11,095	7.5	57,471	39.1
North	74,304	100.0	31,017	41.7	25,039	33.7	5,978	8.0	25,974	34.9
Apache	12,793	100.0	4,900	38.3	3,968	31.0	932	7.3	3,406	26.6
Coconino	20,621	100.0	9,943	48.2	7,554	36.3	2,389	11.6	7,296	35.4
La Paz	2,325	100.0	840	36.1	706	30.4	134	5.8	1,105	47.5
Mohave	11,930	100.0	5,988	50.2	4,713	39.5	1,275	10.7	5,259	44.1
Navajo	12,349	100.0	4,081	33.0	3,406	27.6	675	5.5	3,701	30.0
Yavapai	14,286	100.0	5,265	36.9	4,692	32.8	573	4.0	5,207	36.4
South	72,850	100.0	26,052	35.8	20,935	28.7	5,117	7.0	31,497	43.2
Cochise	13,294	100.0	4,988	37.5	4,230	31.8	758	5.7	4,926	37.1
Gila	7,935	100.0	1,799	22.7	1,578	19.9	221	2.8	2,382	30.0
Graham	2,997	100.0	1,052	35.1	915	30.5	137	4.6	1,003	33.5
Greenlee	3,022	100.0	357	11.8	289	9.6	68	2.2	455	15.1
Pinal	19,285	100.0	5,276	27.4	4,664	24.2	612	3.2	6,869	35.6
Santa Cruz	5,204	100.0	1,565	30.1	1,422	27.3	143	2.7	2,508	48.2
Yuma	21,113	100.0	11,015	52.2	7,837	37.1	3,178	15.1	13,354	48.2

Table 5
Statewide
Automotive Repair Services and Garages Industry (S.I.C. 75)
1985-86 Estimates of Job Opportunities
From Labor Turnover

Rank	Occupation	1985 Employment*	1986 Employment*	85-86 Growth & Labor Force Separations Job Opportunites	85-86 Turn Over** Job Opportunities	85-86 Total*** Job Opportunities
1	Mechanic, Automotive	2,123	2,230	149	3,307	3,456
2	Cleaner, Vehicle	1.522	1,603	101	2,377	2,478
3	Managers & Officers	1,194	1,256	103	1,841	1,944
4	Body Repairer, Automotive	722	758	50	1,125	1,175
5	Car Rental Clerk	557	586	57	850	907
6	General Clerk, Office	350	369	36	534	570
7	Painter, Automotive	329	346	26	510	536
8	Sales Rep., Agent, &/or Associate	289	305	24	446	470
9	Cashier	275	289	28	420	448
10	Diesel Mechanic	242	254	17	377	394
11	Tire Repairer	204	214	16	316	332
12	Glass Installer	186	196	14	289	303
13	Auto Seat Cover & Top Installer	181	191	12	283	295
14	All Other Laborers & Unskilled Workers	181	191	14	281	295
15	Fuel Pump Attendant	175	184	13	272	285
16	Rental Car Deliverer	172	181	14	266	280
17	All Other Service Workers	172	182	17	263	280
18	Bookkeeper, Hand	171	180	17	261	278
19	Truck Driver	131	138	9	204	213
20	Stock Clerk, Stockroom etc.	131	138	10	203	213
	Remaining Occupations	1,455	1,518	108	2,261	2,369
	Industry Total	10,762	11,319	835	16,686	17,521

SOURCE: * Unpublished industry staffing pattern estimated by the Occupational Employment Statistics Program.

** New Hire factor (1.628) x 1985 employment less Growth and Separations from Labor Force.

*** Sum of turnover and Growth and Labor Force Separations Job Opportunities.

Arizona Labor Force and Employment

March 1985 (in thousands)

	ARIZONA				
				-- Amt Change --	
	Mar.* 1985	Feb. 1985	Mar. 1984	Feb. to Mar.	1984 to 1985
TOTAL CIVILIAN LABOR FORCE	1483.6	1479.3	1416.0	+4.3	+67.6
Total Unemployment	86.3	84.8	75.3	+1.5	+11.0
Rate	5.8	5.7	5.3	---	---
Rate (Sea. Adj.)**	5.9	5.7	5.4	---	---
Total Employment	1397.3	1394.5	1340.7	+2.8	+56.6

THE ABOVE LABOR FORCE STATISTICS SHOULD

NONAGRICULTURAL WAGE AND SALARY EMPLOYMENT BY PLACE OF WORK

	Mar.* 1985	Feb. 1985	Mar. 1984	Feb. to Mar.	1984 to 1985
TOTAL WAGE AND SALARY	1254.7	1240.1	1161.2	+14.6	+93.5
Manufacturing	179.7	179.2	166.5	+0.5	+13.2
Durable Goods	142.5	141.9	130.8	+0.6	+11.7
Stone, Clay and Glass	7.8	7.6	7.1	+0.2	+0.7
Primary and Fabricated Metals	16.8	16.7	15.4	+0.1	+1.4
Primary Metals	7.2	7.2	6.6	+0.0	+0.6
Fabricated Metals	9.6	9.5	8.8	+0.1	+0.8
Machinery	71.7	71.8	65.8	-0.1	+5.9
Other Durable Goods	46.2	45.8	42.5	+0.4	+3.7
Aircraft and Missiles	20.8	20.6	19.1	+0.2	+1.7
Lumber and Wood Products (Except Furniture)	6.9	7.0	7.0	-0.1	-0.1
All Other Durable Goods	18.5	18.2	16.4	+0.3	+2.1
Nondurable Goods	37.2	37.3	35.7	-0.1	+1.5
Food and Kindred Products	7.9	7.9	7.8	+0.0	+0.1
Apparel	4.7	4.8	5.1	-0.1	-0.4
Printing and Publishing	14.2	14.2	12.9	+0.0	+1.3
All Other Nondurable Goods	10.4	10.4	9.9	+0.0	+0.5
Mining and Quarrying	12.2	12.3	13.1	-0.1	-0.9
Copper Mining	9.5	9.6	11.0	-0.1	-1.5
Other Mining and Quarrying	2.7	2.7	2.1	+0.0	+0.6
Construction	107.0	104.4	90.1	+2.6	+16.9
Trans., Communications, and Public Utilities	62.9	63.1	59.5	-0.2	+3.4
Transportation	28.9	29.2	27.0	-0.3	+1.9
Communications and Public Utilities	34.0	33.9	32.5	+0.1	+1.5
Trade	302.8	301.1	280.4	+1.7	+22.4
Wholesale Trade	62.9	62.3	57.4	+0.6	+5.5
Retail Trade	239.9	238.8	223.0	+1.1	+16.9
General Merchandise and Apparel	38.7	39.5	37.5	-0.8	+1.2
Food Stores	36.6	36.5	34.3	+0.1	+2.3
Automotive and Service Stations	28.5	28.2	26.2	+0.3	+2.3
Eating and Drinking Places	85.0	83.3	78.5	+1.7	+6.5
Other Retail Trade	51.1	51.3	46.5	-0.2	+4.6
Finance, Insurance, and Real Estate	74.9	74.2	70.2	+0.7	+4.7
Services and Miscellaneous	293.2	288.7	267.5	+4.5	+25.7
Hotels and Other Lodging Places	32.1	30.8	28.2	+1.3	+3.9
Business Services	65.3	63.9	56.5	+1.4	+8.8
Health Services	70.5	70.2	68.7	+0.3	+1.8
Other Services	125.3	123.8	114.1	+1.5	+11.2
Government	222.0	217.1	213.9	+4.9	+8.1
Federal	39.7	39.6	38.1	+0.1	+1.6
State and Local	182.3	177.5	175.8	+4.8	+6.5
School	111.8	107.6	109.1	+4.2	+2.7

* Preliminary

** Normal seasonal variations have been eliminated to reflect underlying economic trends.

NOTE--Prepared in cooperation with the U.S. Department of Labor, Bureau of Labor Statistics.

Arizona Labor Force and Employment

March 1985 (in thousands)

MARICOPA COUNTY					PIMA COUNTY				
			-- Amt Change --					-- Amt Change --	
Mar.* 1985	Feb. 1985	Mar. 1984	Feb. to Mar.	1984 to 1985	Mar.* 1985	Feb. 1985	Mar. 1984	Feb. to Mar.	1984 to 1985
945.6	939.6	893.3	+6.0	+52.3	269.8	269.5	258.9	+0.3	+10.9
42.6	40.8	36.8	+1.8	+5.8	14.4	14.4	12.8	+0.0	+1.6
4.5	4.3	4.1	---	---	5.3	5.3	4.9	---	---
4.6	4.4	4.2	---	---	5.3	5.3	5.0	---	---
903.0	898.8	856.5	+4.2	+46.5	255.4	255.1	246.1	+0.3	+9.3

T BE USED FOR ECONOMIC ASSISTANCE PROGRAMS.

NONAGRICULTURAL WAGE AND SALARY EMPLOYMENT BY PLACE OF WORK

825.2	813.4	756.6	+11.8	+68.6	227.3	225.0	211.7	+2.3	+15.6
131.3	131.1	121.1	+0.2	+10.2	30.4	30.0	27.7	+0.4	+2.7
105.5	105.3	96.2	+0.2	+9.3	25.4	25.0	22.9	+0.4	+2.5
4.7	4.7	4.2	+0.0	+0.5					
11.2	11.0	9.8	+0.2	+1.4					
57.8	58.0	53.1	-0.2	+4.7					
31.8	31.6	29.1	+0.2	+2.7					
25.8	25.8	24.9	+0.0	+0.9	5.0	5.0	4.8	+0.0	+0.2
5.1	5.2	5.3	-0.1	-0.2					
2.8	2.8	3.1	+0.0	-0.3					
10.5	10.5	9.5	+0.0	+1.0					
7.4	7.3	7.0	+0.1	+0.4					
0.6	0.6	0.6	+0.0	+0.0	2.5	2.6	3.6	-0.1	-1.1
75.3	73.3	62.1	+2.0	+13.2	19.7	19.2	17.5	+0.5	+2.2
41.1	41.2	38.6	-0.1	+2.5	8.8	8.9	8.7	-0.1	+0.1
19.8	20.0	18.3	-0.2	+1.5	4.0	4.1	4.0	-0.1	+0.0
21.3	21.2	20.3	+0.1	+1.0	4.8	4.8	4.7	+0.0	+0.1
206.1	205.1	190.7	+1.0	+15.4	49.9	49.5	46.2	+0.4	+3.7
49.1	48.6	45.0	+0.5	+4.1	7.2	7.2	6.5	+0.0	+0.7
157.0	156.5	145.7	+0.5	+11.3	42.7	42.3	39.7	+0.4	+3.0
24.3	25.0	23.8	-0.7	+0.5	7.6	7.7	7.3	-0.1	+0.3
23.4	23.3	22.0	+0.1	+1.4	5.8	5.7	5.5	+0.1	+0.3
18.4	18.1	16.6	+0.3	+1.8	4.4	4.4	4.3	+0.0	+0.1
55.3	54.1	51.1	+1.2	+4.2	16.1	15.8	14.5	+0.3	+1.6
35.6	36.0	32.2	-0.4	+3.4	8.8	8.7	8.1	+0.1	+0.7
58.3	57.9	55.0	+0.4	+3.3	10.6	10.5	9.6	+0.1	+1.0
201.2	197.3	182.6	+3.9	+18.6	54.5	53.9	49.2	+0.6	+5.3
20.4	19.3	17.3	+1.1	+3.1	5.1	5.0	4.3	+0.1	+0.8
53.2	51.9	47.2	+1.3	+6.0	9.3	9.3	7.4	+0.0	+1.9
48.0	47.9	46.4	+0.1	+1.6	14.1	14.0	14.2	+0.1	-0.1
79.6	78.2	71.7	+1.4	+7.9	26.0	25.6	23.3	+0.4	+2.7
111.3	106.9	105.9	+4.4	+5.4	50.9	50.4	49.2	+0.5	+1.7

-- Prepared by Labor Market Information, Research and Analysis (CPS, 1/85)

NONMETROPOLITAN COUNTIES
LABOR FORCE AND EMPLOYMENT
MARCH 1985

	Apache	Cochise	Coconino	Gila	Graham	Greenlee	La Paz
TOTAL CIVILIAN LABOR FORCE*.	15,550	29,175	36,025	13,075	8,050	3,225	4,625
Total Unemployment	2,300	2,425	3,200	1,650	975	475	600
Rate	14.8%	8.3%	8.9%	12.6%	12.1%	14.7%	13.0%
Rate (Seas. Adj.)**. . . .	15.5%	8.3%	8.7%	12.5%	12.3%	15.4%	-INA-
Total Employment	13,250	26,750	32,825	11,425	7,075	2,750	4,025

THE ABOVE LABOR FORCE STATISTICS SHOULD NOT BE USED
FOR ECONOMIC ASSISTANCE PROGRAMS

	Apache	Cochise	Coconino	Gila	Graham	Greenlee	La Paz
TOTAL WAGE AND SALARY. . . .	14,475	22,850	32,500	9,750	4,800	2,725	2,450
Manufacturing.	625	1,875	2,375	1,225	150	125	70
Mining and Quarrying	25	175	50	1,625	50	1,525	0
Construction	1,225	1,300	1,500	425	125	100	75
Trans., Comm., & Pub. Util..	1,825	1,400	2,800	300	150	50	50
Trade.	1,225	4,925	7,400	1,900	1,325	275	775
Fin., Insur., & Real Estate.	275	650	700	225	125	25	75
Services and Miscellaneous .	3,775	3,000	7,275	1,800	750	100	650
Government	5,500	9,525	10,400	2,250	2,125	525	750

	Mohave	Navajo	Pinal	Santa Cruz	Yavapai	Yuma
TOTAL CIVILIAN LABOR FORCE*.	23,825	24,825	32,625	8,800	32,850	35,625
Total Unemployment	2,625	3,350	4,025	1,000	2,350	4,425
Rate	11.0%	13.5%	12.3%	11.4%	7.2%	12.4%
Rate (Seas. Adj.)**. . . .	10.8%	13.2%	12.7%	13.3%	6.8%	-INA-
Total Employment	21,200	21,475	28,600	7,800	30,500	31,200

THE ABOVE LABOR FORCE STATISTICS SHOULD NOT BE USED
FOR ECONOMIC ASSISTANCE PROGRAMS

	Mohave	Navajo	Pinal	Santa Cruz	Yavapai	Yuma
TOTAL WAGE AND SALARY. . . .	17,100	17,700	25,675	8,300	19,300	24,025
Manufacturing.	2,200	1,625	3,250	750	2,100	1,575
Mining and Quarrying	225	1,125	3,675	0	600	50
Construction	1,400	775	950	275	1,725	2,100
Trans., Comm., & Pub. Util..	1,100	1,600	1,200	600	925	900
Trade.	4,750	3,150	4,600	3,725	5,000	7,650
Fin., Insur., & Real Estate.	850	350	675	225	800	850
Services and Miscellaneous .	3,400	4,525	2,775	1,225	3,700	4,450
Government	3,175	4,550	8,550	1,500	4,450	6,450

*Adjusted to the Current Population Survey (CPS) to reflect place of residence.
**Seasonal adjustment not applicable for economic assistance programs.

NOTE--Series for Yuma and La Paz counties start January 1983. Data are not comparable to any past series.

Prepared in conjunction with the U.S. Department of Labor, Bureau of Labor Statistics.

ARIZONA LABOR FORCE AND EMPLOYMENT FOR ECONOMIC ASSISTANCE PROGRAMS
MARCH 1985

County	Civilian Labor Force	Employment	Unemployment	Rate
Statewide	1,483,640	1,397,306	86,334	5.8%
Apache	15,540	13,239	2,301	14.8
Cochise	29,171	26,750	2,421	8.3
Coconino	36,022	32,815	3,207	8.9
Gila	13,085	11,439	1,646	12.6
Graham	8,063	7,097	966	12.0
Greenlee	3,219	2,739	480	14.9
La Paz	4,613	4,006	607	13.2
Maricopa	945,565	903,316	42,549	4.5
Mohave	23,818	21,188	2,630	11.0
Navajo	24,831	21,469	3,362	13.5
Pima	269,814	255,457	14,357	5.3
Pinal	32,624	28,592	4,032	12.4
Santa Cruz	8,808	7,810	998	11.3
Yavapai	32,844	30,486	2,358	7.2
Yuma	35,623	31,203	4,420	12.4

These figures are the only official BLS labor statistics to be used for revenue sharing purposes. They are not designed to be used as economic indicators. Note: Series for Yuma and La Paz counties start January 1983. Data are not comparable to any past series.

ESTIMATED HOURS AND EARNINGS OF PRODUCTION WORKERS IN SELECTED INDUSTRIES IN ARIZONA
MARCH 1985

INDUSTRY	AVERAGE WEEKLY EARNINGS			AVERAGE WEEKLY HOURS			AVG. HOURLY EARNINGS		
	MAR.* 1985	FEB. 1985	MAR. 1984	MAR.* 1985	FEB. 1985	MAR. 1984	MAR.* 1985	FEB. 1985	MAR. 1984
FOR THE STATE OF ARIZONA*									
Manufacturing	382.04	384.06	369.65	40.3	40.3	40.8	9.48	9.53	9.06
Aircraft & Missiles	INA	INA	INA	INA	INA	INA	INA	INA	INA
Food & Kindred Products	306.53	327.62	316.30	40.6	40.1	38.2	7.55	8.17	8.28
Primary Metals	497.32	480.98	458.81	40.4	39.2	37.7	12.31	12.27	12.17
Machinery	339.89	335.48	339.84	39.8	39.1	40.7	8.54	8.58	8.35
Copper Mining	576.72	565.55	519.39	42.5	41.8	39.8	13.57	13.53	13.05
Construction	415.70	436.60	421.36	35.5	37.0	36.8	11.71	11.80	11.45
Utilities	562.88	562.88	529.27	43.6	43.6	43.1	12.91	12.91	12.28
Retail Trade**	225.44	225.44	238.14	33.3	33.3	33.4	6.77	6.77	7.13
Wholesale Trade	363.85	354.92	346.66	38.3	38.0	39.8	9.50	9.34	8.71

* Preliminary
** Excludes eating and drinking places.
NOTE--These estimates are based on a sample of full and part-time production and related employees whose payroll and hours are reported for the pay period which includes the 12th of the month. Prepared in cooperation with the U.S. Department of Labor, Bureau of Labor Statistics.

--Prepared by Labor Market Information, Research and Analysis (1972 SIC, 1/84)

THE ARIZONA LABOR FORCE IN MARCH 1985

Employment continued to expand in Arizona last month, but the growth in job opportunities failed to keep the unemployment rate from rising for the fourth month in a row. With 1,500 Arizonans added to the ranks of the unemployed in March, the jobless total now stands at 86,300. This represents a significant increase over the 62,000 that were unemployed in November 1984, but still compares favorably with the record level recorded during the summer of 1982, when over 150,000 members of Arizona's labor force were unemployed.

Employment growth often slows in Arizona during March--many young adults are in school, some farms are between harvesting and planting, and the tide of winter visitors begins to peak before heading north. Nevertheless, nonagricultural wage and salary employment surged by over 14,000 last month, with the construction sector registering another strong increase. Hiring activity was particularly strong in Maricopa County, where 2,000 construction workers found jobs. Home builders, industrial contractors and others all showed large increases, and the volume of work in progress promises to keep construction employment high for the near term. So far, the prospect of a rising surplus of office space has yet to result in many layoffs in construction.

Arizona's recent economic performance has reflected a pattern seen nationally this year. The service-producing sectors of the economy have continued to expand rapidly while the participation of goodsproducing industries such as mining and manufacturing has diminished. This results from a combination of weak commodity prices and a cost producers in the international marketplace very difficult. With the presence of several large defense contractors in the state, Arizona has fared better than most. The durable goods sector added 600 workers in March despite continued softness in demand for electronic equipment in the private sector. Nondurable manufacturers, with the notable exception of printing and publishing firms, have exhibited a flat hiring pattern for over a year. In fact, some producers of food products and apparel have gone out of business while other manufacturing companies have prospered.

By contrast, the growth in finance, insurance and real estate, business services, health services, eating and drinking places and hotels is impressive. Even in northern Arizona, where economic activity is usually slow in March, hotels and lodging employment rose by over 250, a sign that the tourism industry expects a brisk spring and summer season this year. Employment also increased in the southern counties, especially in restaurants and in construction. In the urban areas, business and financial services are expanding very rapidly in response to a rising level of commerce and a steadily growing population base.

As we look to the future job situation in Arizona, we are concerned about manufacacturing. It appears that the slump in the electronics industry should be temporary. However, competition in the international marketplace will keep employment from rising as rapidly as it did in 1983 and 1984. Should the current slump continue, the service industries will continue to create some jobs, but unemployment may continue to rise.

Brian Cary

ARIZONA UNEMPLOYMENT INSURANCE ACTIVITIES - MAY 1984

	May 1984	April 1984	May 1983	% Change From One Year Ago
Arizona Claimants Served*	27,157	28,149	62,346	-56.4%
Arizona Average Weeks Unemployed**	8.3	8.5	10.8	-23.1%
Arizona Benefits Paid*	$ 8,837,930	$ 8,087,757	$ 20,122,352	-56.1%
Arizona Trust Fund Balance	$212,568,755	$183,522,541	$168,168,986	+26.4%

*All Programs **UI Only

NEW DEVELOPMENTS

"New Developments" is featured each month as a service to employers and job seekers. It is a compilation of public announcements of the more significant new construction, grand openings, major hirings and layoffs and other employer events that have special significance for Arizona labor markets. The announcements are paraphrased and otherwise edited from articles published in newspapers and other periodicals from throughout the state. "New Developments" are limited to space available, and no attempt is made to compile an exhaustive list of all such events that have occurred during the month.

Construction - With the recent award of Development Action Grants, Shirley Villegas, a South Tucson City Council member, says she is confident the city's high unemployment rate will be reduced. South Tucson will receive a $500,000 grant to help finance a technical center. It plans to loan the grant to the DEV/TECH group, a combined management consulting firm, commercial and industrial real estate brokerage and general contracting business. It will use the loan to buy land for the Butterfield Technical Center. The center will be located at the Butterfield Business Center, northeast of East Irvington and South Palo Verde roads. Some 625 full-time and 25 part-time jobs are to be created from the medical and electronic research and development center. Construction is scheduled to begin in June and completion is targeted for May 1986, city officials say.

Construction will begin soon on the $20 million Koll Business Center on the northwestern corner of 48th Street and Interstate 10. The 24-acre site will be developed in phases and will contain 300,000 square feet. The Center is a joint venture of the Koll Construction Co. as the developer and the Williams Lyon Co.

Land clearing has been completed for the $8 million, 225-unit apartment complex of 10 two story buildings on nine acres at Central Avenue and Highline Canal. It is being built for the Paul Ash Investment Co., Tucson.

A $9 million, 252-unit apartment complex on East Baseline is the first phase of a planned 27-acre commercial and residential project. Future development will include another 275 apartments, 108 houses for senior citizens and a shopping center at Seventh Street and Baseline. Randy Reid of Steppe & Wilson Architects in Tempe said, "We think this shopping center is very viable." There is only a two percent commercial vacancy rate in the area.

A 40-acre medical campus in South Mountain Village is in its second phase. The campus is owned by Memorial Hospital, said Mandy Weaver, of Devenney & Associates LTD. Specialists in the $3 million facility will include obstetrics-gynecology, orthopedic surgery, general surgery and pediatrics.

Earlie Homes, Inc. has announced the opening of its new subdivision, Alta Mesa townhomes, on McClellan Road east of McKellips in Mesa. The townhomes are part of the 912-acre masterplanned Alta Mesa community which will also accommodate 99 calls for a country club, commercial services, shopping and recreational facilities to be built.

The A.S.U. Bureau of Business and Economic Research ranked the following cities according to their percent increase in home sales for 1984.

1.	Gilbert	49%
2.	Chandler	27%
3.	Scottsdale	19%
4.	Tempe	11%
5.	Phoenix	10%
6.	Glendale	8%
7.	Sun City	6%

Hotels - The city of Bisbee will receive a $800,000 grant to build a 60-room hotel and convention center. The total cost of the project will be $4.9 million and it will be built by Collier-Craft Development Co.

Manufacturing - Sundstrand Corp., an Illinois-based manufacturer of aerospace and industrial equipment, plans to open an electronics-assembly plant at Black Canyon

Tech Center on Interstate 17 between Union 1211s and Bell roads. On June 1st the firm will occupy two structures, one a 60,000 square-foot single-story building and a second having 40,000 square-feet of space. The company officials are not prepared to discuss at this time the number of employees to be hired, but Maurice R. Smith, director of Sundstrand's advanced-technology group, said a second manufacturing site in the West also is being considered by the firm. Sundstrand's products include electrical-generating systems, pneumatic systems, navigation systems, underwater propulsion systems, high-speed pumps and heating and air-conditioning equipment.

General Semiconductors Industry is building a diode manufacturing facility in Cottonwood. This will be the first high technology manufacturing plant in the small Verde Valley town. Gerald Myers, GSI president said the facility is scheduled for completion in September of this year.

Coleman Products Inc. a Wisconsin-based manufacturer of electronic products plans to employ 200 local people at a new plant in Nogales, Arizona by September of this year said Tom Koos, plant manager. The American Motors subsidiary plans to manufacture wire harnesses and other electronics equipment at the new plant.

Productive Programs Inc., a Phoenix software company, has assumed the responsibility of managing the national dealer network for Tailored Data Inc. of Minneapolis. Tailored Data produces a line of fully integrated accounting software packages that are IBM-compatible. William Schuster, president of Productive Programs says that their support staff is being increased along with the newly installed 800 numbers for customer calls.

Microage Inc., the parent company of Micro-Age Computer Stores Inc. of Tempe, recently completed a $6 million private placement in preferred stock. The funds will be used to establish a 110,000 square-foot distribution center in Tempe, an 8,000 square-foot retail store, the development of a private label program and overseas expansion.

Data Processing Security Inc., a Dallas computer installation and security company is planning to build a $3.5 million computer facility near Sky Harbor International Airport. The 16,000 square-foot plant will serve as an insurance computer to companies in the event of a computer failure. Charles Scoma, vice president of Data Processing, said more than 100 companies have enrolled in the program including Texaco, Shell, Time-Life, Florida Light and Power and Hallmark Cards. Data Processing has facilities in eight cities of the U.S. The Phoenix facility is expected to open within next year depending on response in the market place.

Megatronics Inc., has signed a preliminary licensing agreement with Elite Circuits Inc., of San Diego. Megatronics will manufacture and market printed circuit boards utilizing the injection molding technology developed by Elite Circuits. Megatronics also announced the expected completion of installation in a solder coating center in the Phoenix area early this month.

Krueger Technology was able to become the first full-service surface mount contract assembly house in Arizona by placing $400,000 in new production equipment orders during the month of March. The equipment is expected to be in operation by June 15.

Indian Jobs Program - A program to provide jobs for residents of the Navajo reservation, where unemployment is more than double that of the rest of the state, was approved by a Senate panel. $257,000 will be appropriated to set up employment services offices in Window Rock, Chinle, Kayenta and Tuba City. The offices will be set up by the Department of Economic Security, but eventually would be run by the Navajo Tribal Council. The offices will provide information on jobs available throughout the state and work to bring potential employers and workers together.

The Navajo Tribe has agreed to use $50,000 in tribal funds to help establish a tribal sewing factory in Fort Defiance. The community agreed to put $35,388 of its own funds into the project and to provide the workers and supplies needed to renovate a tribal warehouse for use as the factory. Michael Allison, Director of Economic Development for the tribe, said the factory will produce its own line of clothing, based on clothing worn by Navajo cowboys. The company is also planning to seek government clothing contracts. Initially, the factory will provide 19 greatly needed permanent jobs. Unemployment rates in the Fort Defiance area have been high for many years. The sewing factory is scheduled to be in operation by July 1st.

Mining - The April 4th closing of the Phelps Dodge Corp. New Cornelia copper smelter will mean a loss of 200 jobs for Ajo smelter workers. Company officials said only 35 employees will be transferred or retire when the smelter closes. The high cost of air-quality control equipment required to permit the smelter to operate beyond December 31st was cited by company officials as one of the causes for the

Education - Job opportunities for school- shutdown. Leonard R. Judd, Senior Vice President in charge of western mining operations said: "The inherent handicaps of operating a small smelter located a long distance from the sources of concentrates were just too great to overcome." Spokesman Ken Bennett says copper would have to rise above 80 cents a pound and remain there for some time before the company could reopen Ajo's New Cornelia smelter. Prices now are 65 to 67 cents for producers.

Rep. Jim Kolbe, R-Arizona, introduced a bill April 4th aimed at stopping the International Monetary Fund from making low-interest loans to Third World copper-producing countries like Chile, Peru, Zambia and Zaire. Kolbe said they are flooding the copper market and depressing the price. $4.4 billion were loaned to those countries between 1975 and 1983.

Tourism - Ajo's Chamber of Commerce committee launched a campaign to ensure the town's economic future by encouraging tourism and retirement trade. A great deal of planning, money, time and work will be necessary to achieve this goal. Bryan Blow, a leader in the committee, listed a few of the projects the Chamber of Commerce is working on: Funds are being raised to publish a full-color brochure to advertise Ajo's climate and amenities, plans for better roads and signs in the community as well as on the highways pointing to Ajo and its attractions. Some economists predicted it will take several years before Ajo's economy is diversified enough to recover in the absence of Phelps Dodge.

Government - Arizona is finding ways to resolve the problem of delays in distributing food-stamps. Governor Bruce Babbitt recently proposed pumping $1.4 million in additional funds into D.E.S., to provide 110 more jobs statewide to help with the processing. A total of 220 workers actually would be added, because of matching federal funding. Babbitt's proposal was approved by the state senate, but was reduced to 36 added workers. The proposal is pending approval from the House.

Education - Job opportunities for schoolteachers will be better in 1985-86 than 1984-85 according to the annual survey of placement officials conducted for the Association for school, college and university staffing. The survey indicated "considerable teacher shortages" in chemistry, computer programming, data processing, mathematics, and physics. The placement officials expected a surplus only of physical education teachers. The survey was conducted by James N. Akin, Associate Director of Career Planning and Placement at Kansas State University. Copies of the report are available, free of charge, from the Association for School, College and University Staffing, Box 4111, Madison, Wisconsin 66506.

University and College - Faculty salaries are up 6.6 percent nationally this academic year and the average faculty member is making $30,960. It was the fourth consecutive year in which salaries increased faster than inflation said W. Lee Hansen, Professor of Economics at the University of Wisconsin. Salary increases for college administration also outdistanced the rate of inflation for the current academic year according to a new survey by the College and University Personnel Association.

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ARIZONA LABOR MARKET INFORMATION NEWSLETTER

Vol. IX No. 6
June 1985

Unemployment Rate

Seasonally Adjusted
April*

ARIZONA	5.9%
Maricopa Co.	4.5%
Pima Co.	5.5%
UNITED STATES	7.3%

Consumer Price Index

National-March
1967 - Base Year

Wage Earner/Clerical Worker -	315.3
% Chg. Yr. Ago	4.0
All Urban -	318.8
% Chg. Yr. Ago	3.7

Phoenix-1st Qtr. 1985
1977 - Base Year

All Urban -	187.8
% Chg. Yr. Ago	5.9

Producer Price Index

National-April*
1967 - Base Year

All Commodities-	309.3
% Chg. Yr. Ago	-0.7
Finished Goods -	293.1
% Chg. Yr. Ago	0.7

* Preliminary

UNIVERSITY - INDUSTRY TECHNOLOGY TRANSFER

A new type of university-industry relationship has developed in the 1980s that centers around the process of technology transfer from research universities to private firms. One expression of this new, closer relationship is the several university-industry research centers in microelectronics, of which the Microelectronics and Computer Technology Corporation (MCC) in Austin, Texas is a spectacular example. The universities, private companies, and Federal, state, and local governments all seem to benefit from the new university-industry relationships, but important problems may accompany these benefits. The information technologies produced by the microelectronics industry are driving the Information Society.

This paper explores policy issues in the role of government initiatives in the transfer of technology from research universities to private companies. We argue that such technology transfer, especially in the microelectronics industry, is at the heart of the Information Society.

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Nancy Augustin, Editor

We shall pursue five main questions:

1. Why is the research university the key institution in the Information Society?

2. Through what mechanisms, such as research parks, collaborative R&D centers, faculty consulting, etc., does the most effective university-industry technology transfer occur?

3. What is the role of federal, state, and local government initiatives in promoting high-technology industry?

4. What are the benefits and the costs of technology transfer from universities to private firms, for the university (such as faculty conflicts-of-interest), for governments, and for private firms?

5. What lessons have been learned about promoting high-technology industry in a nation, state, or local area?

THE TECHNOLOGY TRANSFER PROCESS

Technology transfer is the main basis for the new university-industry relationships in the United States today. Technology transfer is the process through which the technological innovations that result from basic and applied research are communicated to private firms, where they are commercialized.

Commercialization is the production, manufacturing, packaging, marketing, and distribution of a new product that embodies an innovation (Rogers, 1983, p. 143). Private companies usually do commercialization, and universities usually conduct most basic research, so a university-industry transfer of technology is often involved in the technology transfer process (at least in the United States). Technology can also flow from private firms to universities; the university-industry relationship is actually a two-way information-exchange.

Basic research is defined as original investigations for the advancement of scientific knowledge that do not have the specific objective of applying this knowledge to practical problems. In contrast, applied research consists of scientific investigations that are intended to solve practical problems. Applied researchers are the main users of basic research.

Development of an innovation is the process of putting a new idea in a form that is expected to meet the needs of an audience of potential adopters/buyers. In the case of microelectronics, much of the "D" in Research and Development (R&D) is carried out by private industry, and the basic research is mainly conducted by universities, so a university- industry information- exchange has been involved for some years in the rapid technological advance of the microelectronics industry. What is new in recent years are the major collaborative research centers in microelectronics that are located on university campuses and funded mainly by private firms.

#1. WHY IS THE RESEARCH UNIVERSITY THE KEY INSTITUTION IN THE INFORMATION SOCIETY?

Fundamental to the growth of an Information Society is the rise of knowledge industries that produce and distribute information, rather than goods and services (Machlup, 1962). The university (1) produces information as the result of the research that it conducts, especially basic research, and

(2) produces information producers (individuals with graduate degrees, who are trained to conduct research). The information-producing role is particularly characteristic of the 50 or so research universities in the United States. A *research university* is an institution of higher learning whose main function is to perform research and provide graduate training.

The research university fulfills a role in the Information Society analogous to that of the factory in the Industrial Society. It is the key institution around which growth occurs, and it determines the direction of that growth. Each of the major high-technology regions in the United States is centered around a research university: Silicon Valley and Stanford University, Route 128 and MIT, and Research Triangle and the three main North Carolina universities (Duke, North Carolina State, and the University of North Carolina), for example.

A *high-technology industry* is characterized by (1) highly-educated employees, many of whom are scientists and engineers, (2) a rapid rate of technological innovation, (3) a high ratio of R&D expenditures to sales (typically about 1:10), and (4) a worldwide market for its products. The main high-technology industries today are electronics, aerospace, pharmaceuticals, instrumentation, and biotechnology. Microelectronics, a subindustry of electronics centered on semiconductor chips and their applications (such as in computers), is usually considered the highest of high technology because the technology changes more rapidly than other high-technology industries.

It is particularly microelectronics technology, applied in the form of computers (especially microcomputers) and telecommunications, that is driving nations like the United States, Japan, and several Western European countries into becoming Information Societies. That is why the role of the research university in the transfer of microelectronics technology is so important to understanding the emergence of the Information Society. And why government policies affecting this technology transfer play a crucial role in shaping the Information Society.

#2. THROUGH WHAT MECHANISMS DOES UNIVERSITY-INDUSTRY TECHNOLOGY TRANSFER OCCUR?

The trend in recent years is to closer university-industry relationships, especially in the conduct of research. Why?

During the 1980s the federal government cut back severely on its funding of university research in many fields. Consequently, universities looked to private industry for research funds. The National Science Foundation estimates that industry funding of university research increased fourfold in the past decade to about $300 million. During the 1980s many state and local governments launched initiatives to encourage the development of high-technology industry, in order to create new jobs and to fuel economic growth. Fearful of Japanese competition, U.S. microelectronics firms formed university-industry collaborative research centers, and invested considerable resources in funding these centers.

Largest of the new R&D centers is the Microelectronics and Computer Technology

Corporation (MCC), which decided in 1983 to locate on the campus of the University of Texas at Austin. Fifty-six other cities in 27 states competed with Austin for the MCC, with state and local governments offering a variety of incentives. Here is what 300 Texas leaders in state and local governments, universities, and private companies put together over a two-month period to win the MCC (Marks, 1983):

- $20 million in single-family mortgage loans below prevailing interest rates; $3 million in transition loans; a relocation office to facilitate utility hookups and to help place the spouses of MCC employees in jobs; $500,000 to underwrite company relocation expenses; use of a Lear jet and a two-member crew for two years.

- 20 acres of land leased for a nominal fee of $1 per year at the University of Texas' Balcones Research Center; construction and lease of a 200,000 square foot building (cost: $20 million); and interim office space.

- From the University of Texas: $15 million in endowed faculty positions; creation of 32 new faculty positions in microelectronics and computer science; $750,000 in graduate fellowships; an additional $1 million for research in microelectronics and computer science.

- From Texas A&M University: More endowed chairs in microelectronics and computer science; completion of an engineering research building with space for research; adjunct faculty status for MCC research staff.

Arizona Governor Bruce Babbitt, whose state was a finalist in the selection process, stated (1984): "Some 60 mayors and 27 governors complained about the unfair advantage of Texas oil money, and promised their constituents a better showing next time." Certainly the MCC decision heightened awareness among state and local officials about the importance of high-technology development, and created a fuller realization of the role of research universities in attracting high-technology firms.

What did the University of Texas, the state of Texas, and the city of Austin get in return for their offer to the MCC? Jobs and an infusion of big money to the state. The MCC is supported at $75 million per year by a consortium of 18 U.S. firms that are the giants of the microelectronics industry, plus U.S. government research grants (mainly from the Department of Defense). The MCC presently has a research staff of 200, which will double in 1985. During its first year of operation, the MCC created a boomtown mentality in Austin. Fourteen high-technology firms moved all or part of their operations employing 6,100 people to Austin during 1983, while in 1982 only four companies with 900 jobs moved to Austin. The average selling price of a new single-family home rose 20 percent to $106,157 during 1983.

But the main benefits to Austin of getting the MCC will accrue years from now, when a high-technology complex in microelectronics develops around Austin. It is possible that this complex may eventually rival or surpass California's Silicon Valley as a center for the production of information technology. In this sense, the MCC decision may have settled the location of the future capital of the Information Society.

The MCC is only one of several new university-industry research centers in microelectronics.

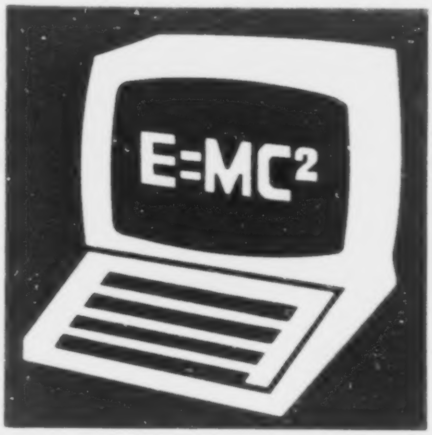
- The Center for Integrated Systems (CIS) at Stanford University was founded in 1981 and is supported by $15 million from 20 U.S. microelectronics firms, and $15 million from the U.S. Department of Defense. A new $9 million building is nearing completion to house CIS' 30 faculty, 80 research staff, and 200 graduate students, plus industry R&D workers that are loaned to CIS by sponsoring firms for a one-year period.

- Arizona State University launched its Center for Solid-State Electronics Research as part of its Excellence in Engineering Program in 1981 to encourage the development of high-technology industry. Funding for the first five years consists of $20 million from the state of Arizona, $10 million from private firms, and $3 million from the federal government. About 34 new faculty positions have been added in microelectronics, and a $13 million building has been constructed.

- The Microsystems Industrial Group at MIT is sponsored by about a dozen companies, many of them on Route 128.
- The Microelectronics Center of North Carolina (MCNC), a research and training facility in Research Triangle Park, was launched in 1981 with $24 million from the state legislature.

Today there are about 25 university-industry microelectronics research centers at U.S. universities. Other such collaborative R&D centers have been founded for robotics, biotechnology, and other high-technology fields. In addition, many other technology transfer mechanisms are used by research universities.

- Research parks, like the Research Triangle Park in North Carolina and the Stanford Research Park (which was the first of its kind, and still is the most successful). The late Fred Terman, then vice-president and provost of Stanford University, launched the Stanford Research park in 1951, as part of his vision-for a West Coast electronics complex.
- Industrial liaison programs by universities, which provide a means for private firms to get an early look at research results and to identify promising students to hire as future employees, in exchange for paying an annual membership fee to the university.
- Faculty consulting by universities professors. President Carl Taylor Compton of MIT in the 1930s not only allowed his faculty to consult for pay one day a week, but strongly encouraged them to do so. Compton thought that faculty consulting was one of the most effective means of technology transfer from MIT's research laboratories to for-profit high technology companies on Route 128. Since Compton's then radical policy on faculty consulting was launched, only one MIT professor has been censored for doing an excessive amount of consulting. After World War II, the MIT faculty consulting policy spread to Stanford University, and, in recent years, to a number of other research universities that wish to foster technology transfer.



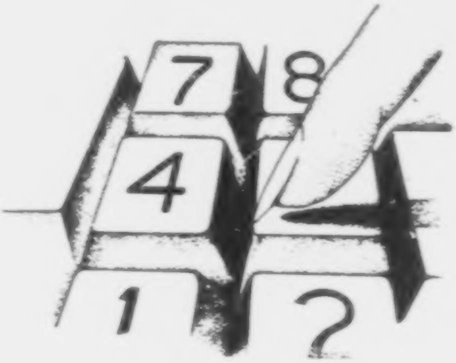
- Especially in recent years, professors have formed companies of their own, often launching their start-up around a technological idea that they bring with them from their university laboratory. In some cases, the faculty entrepreneur who founds a high-technology company then cuts off his/her academic ties. Well-known examples are MIT's Ken Olson who founded DEC (Digital Equipment Corporation) and, more recently, Nobel-laureate biologist Walter Gilbert who left his Harvard professorship in favor of his role as board chairman of Biogen, Inc., a biotechnology company. Harvard wants its professors to devote 80 percent of their time to the university (this is a common "bag limit" on faculty for-profit activities at many universities today); Gilbert says he was spending 80 to 90 percent of his time in other than university responsibilities. The University of California system reviewed 5,000 professors' financial disclosure statements in 1982-83, and told seven faculty members to modify their industry ties. Some universities require that their faculty cannot serve as president, chairman of the board, chief executive officer, or other principal officer in a private firm. At other universities, the faculty are allowed any type of industry role, as long as it does not violate the 20 percent limit on work-time. At Stanford, the 80-member Department of Medicine in 1980 turned itself into a consulting collective to raise money which is then granted for research by junior faculty in the department (Culliton, 1982).

These and other novel means of technology transfer are being tried out by professors at research universities today.

#3. WHAT GOVERNMENT INITIATIVES PROMOTE HIGH-TECHNOLOGY INDUSTRY?

The Office of Technology Assessment (1984) identifies the allure of high-technology development: "state and local government leaders are attracted to high-technology industries because of the sector's rapid expansion and presumed job-creating potential. Some critics, however, believe that high-technology job projections are unrealistically high or that the potential for reviving distressed areas has been overstated."

Although state and local governments are far more active than the federal government in promoting high-technology development (OTA, 1984), a variety of federal policies and programs encourage high-technology industry to cooperate with research universities. The Economic Recovery Tax Act of 1981 provides a 25 percent tax credit for increased corporate R&D expenditures over a base year; up to 65 percent of research contracted to universities and to certain other institutions is covered by this Act. Further, federal policy allows firms to deduct from their taxes as charitable contributions part of the cost of equipment donated to universities. Changes in federal tax policies in recent years also has aided the expansion of venture capital; as a result, it has been easier to obtain financing to launch startup firms (Rogers and Larsen, 1984). One result is an increasing degree of entrepreneurism in starting new microelectronics firms throughout the United States, but especially around Boston and San Francisco/Silicon Valley, where venture capital firms are concentrated.



The recent easing by the federal government of anti-trust restrictions on collaborative R&D activities has facilitated closer university-industry relationships. The MCC in Austin could not have been founded had it not been for a favorable opinion by the U.S. Department of Justice on December 28, 1982. Then, in 1984, Federal legislation was passed to remove certain anti-trust barriers to collaborative R&D.

State governments have initiated 153 programs with a least some feature directed toward high-technology development, with 38 of these programs in 22 states dedicated to the creation, attraction, or retention of high-technology firms (OTA, 1984). The main thrust of these recent state programs has been to coordinate the activities of state and local governments, private industry, and universities to facilitate technology transfer between the university and surrounding high-technology firms (National Governors' Association, 1983; OTA, 1984). State and local laws also are factors affecting technology transfer and the development of high-technology industry. For example, lack of a state income tax in Texas is cited by some firms as an important reason why they moved to Austin.

Government officials may identify potential high-technology firms and encourage these companies to locate in their particular jurisdiction. The competition among state and local governments is especially fierce in seeking collaborative university-industry research centers in microelectronics. For example, the Texas Governor's Office played a very important role in convincing the MCC to locate in Austin, as did the mayor of Austin and the mayor of San Antonio.

#4. WHAT ARE THE BENEFITS AND COSTS OF UNIVERSITY-INDUSTRY RELATIONSHIPS?

Clearly the university-industry collaborative research centers in microelectronics represent a new and important force on the university campus, and one that has already generated a great deal of policy controversy. Some observers see this recent development in a very positive light. Governor Bruce Babbitt (1984) of Arizona refers to "a new awareness that the fruits of university research and development activity have little economic value unless they are systematically harvested in the marketplace." The university obviously benefits from the research funds that it receives, and the professors may gain useful experience which they can incorporate into their courses for the benefit of their students.

In general, both the research universities and private industry are pleased with their new, closer relationships. Microelectronics companies feel that their membership fees paid to the collaborative university-industry research centers are one means of dealing with Japanese competition (for example, the MCC justifies its existence publicly as the U.S. response to the Japanese Fifth-Generation Computer Project). In addition, semiconductor companies in Silicon Valley report they participate in the collaborative centers as a means to identify future employees and faculty consultants from among university students and professors.

The several state and local governments promoting high-technology development feel they are winners as a result of the closer university-industry relationships.

But there are also a variety of problems connected with the industry-sponsored research centers on university campuses. For instance, the priorities accorded by a university to certain disciplines and to certain research problems may be affected by the priorities of private firms that donate research funds, thus causing a feeling of relative deprivation on the part of departments and professors not so favored. The growing emphasis on technology may come at the expense of arts and humanities. University scientists fear that the price of industry collaboration will be a shift from basic research to more product-oriented development.

Problems of inequality also can occur between universities, as well as within a university. When Stanford, Texas, Arizona State, and MIT create university-industry collaborative research centers in microelectronics, are other universities adversely affected? Hancock (1983) noted that in the new era of university-industry relationships, "One trend is apparent; corporate money goes to the academic haves, not the have-nots."

"Concern about the propriety of university-industry relations has been a central theme on the country's research campuses for the past couple of years" (Culliton, 1983). Perhaps one turning point in the recognition of this problem occurred in 1982 when the presidents of five universities met with 11 corporate leaders at Pajaro Dunes (California) to explore such questions as: "How can universities preserve open communication and independence in the direction of basic research while also meeting obligations to industry? Is it acceptable for one corporation to dominate research in an entire (academic) department? Are there adverse consequences in terms of collaboration among faculty in various departments if one group must worry about protecting corporate right to licenses? Will extensive corporate ties erode public confidence in university faculty as disinterested seekers of truth?" (Science, 1982)

The Twentieth Century Fund Task Force on the Commercialization of Scientific Research (1964) highlighted this conflict-of-interest problem: "Ties between the scientific community and corporations, and between corporations and universities, are not, of course, new. Such ties are the one reason for the continued supremacy of American science. But the new relationships differ in magnitude and extend from past relationships, introducing the possibility of conflicts of interest." The general conclusion is that research universities should move carefully into their new partnership relations with private industry.

In summary, there are three main points of potential conflict between the university and private firms in the present era of closer relationships:

1. Restrictions on the communication of research results, where company secrecy policies may conflict with the scientific desire for free communication.
2. The relatively short-term orientation of the private firms versus the longer-term orientation of university scientists toward basic research.
3. The agenda of priorities for university research may be affected by corporate sponsorship, with emphasis upon scientific fields with a direct potential for commerical payoff.

Clearly the new relationships between industry and the university, often fostered by government initiatives and intended to encourage high-technology development, deserve careful research and analysis. Such investigation has not been mounted to date.

#5. WHAT ARE THE LESSONS LEARNED ABOUT PROMOTING HIGH-TECHNOLOGY INDUSTRY?

Conventional wisdom in recent years indicated that state and local governments are engaging in futile activity when they try to attract high-technology firms away from other locales in the United States. Instead, it seems more effective for a state or city to grow its own high-technology industry. And the seed for starting local entrepreneurial activities is to invest in improving a research university, especially in such academic departments as electrical engineering, computer science, and molecular biology. An investment in improving these university departments is likely to pay off, eventually, in technology transfer to private firms, and, still later, to generating an entrepreneurial head of steam in starting-up high-tech firms.

It should be recognized that a considerable time lag is usually involved from the improvement of a research university, to the rise of a local high-technology industry. Clear evidence on this point is provided by the case of Research Triangle in North Carolina. Governor Luther H. Hodges had the original vision of a North Carolina high-technology center back in the 1950s. Hodges followed the Stanford University model of establishing a university research park in order to create a high-technology complex. Only after 20 years of concerted efforts did high-tech firms begin to move to Research Triangle, with the key turning point occurring in 1965 when IBM located an R&D unit there. Total employment in Research Triangle Park's 40 firms is now over 20,000 with an annual payroll of $500 million (Rogers and Larsen, 1984, p. 241). But there is not yet much entrepreneurial activity in starting up new firms. Several decades were also necessary for the rise of

Silicon Valley in Northern California and for the beginnings of Route 128 around Boston. So high-technology industry does not get underway overnight. On the other hand, the present Austin take-off is occurring very rapidly.

The presence of an outstanding research university in a locale does not necessarily cause the development of a high-technology center. Evidence of this point is provided by such excellent universities as Harvard, Columbia, Chicago, Berkeley, and Cal Tech, none of whom have played an important role in technology transfer to local firms. Obviously, other factors than just the presence of a local research university are involved in launching a high-technology center; a high quality-of-life, entrepreneurial spirit, and the presence of venture capital, are also important. And even when a research university is present, it must have policies that encourage faculty to assist local firms, or else not much technology transfer will occur. Such favorable policies exist at Stanford, MIT, Texas, Arizona State, the North Carolina universities, and, increasingly, at other universities. Harvard, Berkeley and other outstanding research universities do not particularly encourage technology transfer. And so their potential for encouraging high-technology industry is not realized.

CONCLUSION

The research university in the United States is changing its role from mainly that of conducting basic research to also taking a more active role in transferring technology to private firms. The most advanced case of this trend is happening in microelectonics, a scientific field that is driving the Informaion Society.

Whether the trend to closer university-industry relationships will result in greater benefits than costs to the participants, and to society, remains to be seen.

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AVERAGE FACULTY SALARIES

The following table contains selected data from an article entitled, "Average Salaries for Full-Time Faculty Members this Year at more than 1,700 U.S. Colleges and Universities" which appeared in the April 24, 1985 issue of The Chronicle of Higher Education. It shows 1984-85 average salaries for full-time faculty members (excluding medical schools) by rank at four-year institutions in Arizona and some neighboring states. The figures are reported in thousands of dollars and are rounded out to the nearest hundred. They are adjusted to a standard nine-month basis. A blank appears when the institution has no faculty members at that rank. A dash indicates that there are five or fewer faculty members at that rank. Data to control for time-in-rank, productivity, and market factors were not available.

AVERAGE SALARIES AT SELECTED FOUR-YEAR INSTITUTIONS

Arizona	Prof.	Assoc. Prof.	Assist. Prof.	Instructor
University of Arizona	42.9	31.4	25.9	22.9
Arizona State University	42.3	32.0	26.2	20.4
Northern Arizona University	38.0	30.3	24.9	20.1
Grand Canyon College	28.3	22.5	18.9	17.5

California	Prof.	Assoc. Prof.	Assist. Prof.	Instructor
University of California - Berkeley	54.3	34.9	29.6	--
University of California - Los Angeles	51.7	33.7	28.7	--
University of California - San Diego	50.4	33.4	28.5	
California State University - Fresno	41.4	31.4	25.5	22.8
California State University - San Francisco	41.4	31.1	25.5	22.3
California State University - San Bernadino	40.5	31.6	25.6	22.3
University of Southern California	50.8	35.3	29.7	26.3
Stanford	58.3	40.5	31.7	--
Claremont - McKenna	41.7	31.6	26.7	--
Colorado				
University of Colorado - Boulder	39.1	30.6	27.1	22.8
University of Colorado - Denver	36.2	29.3	25.7	20.0
Colorado State University	35.6	28.2	24.2	19.2
University of Denver	38.3	28.2	24.8	23.2
University of Southern Colorado	31.9	28.0	22.9	--
University of Northern Colorado	34.3	27.4	22.6	19.9
Nevada				
University of Nevada - Las Vegas	37.5	29.6	25.5	21.2
University of Nevada - Reno	36.3	29.2	23.8	19.9
New Mexico				
University of New Mexico	39.4	29.3	24.2	19.0
Eastern New Mexico University	35.7	29.8	25.0	20.4
New Mexico State University - Main Campus	37.8	28.9	24.1	19.0
New Mexico State University - Alamogordo	--	27.4	22.2	20.5
Utah				
University of Utah	41.6	29.8	25.4	20.9
Utah State University	36.8	29.1	24.3	21.0
Weber State College	33.6	28.0	24.3	19.6
Southern Utah State College	30.8	25.5	22.0	19.6

The salaries in the table are divided by rank, starting with the highest paid, the full professor or "Prof." The next highest paid is the associate professor who has tenure but has not yet made full professor. Assistant professors are next. These are new professors usually, and do not yet have tenure. The lowest paid are instructors who are often graduate students or new Ph.Ds. Therefore, in every case, salaries decrease as you go from left to right on any row.

One would expect salaries to be higher in California due to their high cost of living, but the table bears this out only for certain of its colleges and universities. The University of California system's salaries are higher than Arizona's, as are USC and Stanford, but the California State University System is about comparable to Arizona State University and the University of Arizona.

Colorado, New Mexico, Nevada, and Utah all pay less to their faculty than ASU or the University of Arizona. These state's four-year institutions are more comparable in pay to our Northern Arizona University.

The highest salary in this specific table is $58,300, which is paid to a full professor at Stanford. The lowest salary is $17,500, which is paid to an instructor at Grand Canyon College here in Arizona.

Nancy Augustin

THE ARIZONA LABOR FORCE IN APRIL 1985

Unemployment in Arizona climbed to 5.9 percent of the labor force in April, a 0.1 percent increase over the revised March figure. This marks the fifth consecutive month that the rate has increased from November's low of 4.3 percent. Although 4,200 wage and salary jobs were added last month, the increase was small compared to the increase of 13,100 jobs recorded in April 1984. The slowing rate of growth seen recently in Arizona suggests that unemployment may continue to increase.

As the state economy cools down, the growth pattern is showing similarities to recent trends at the national level. The U.S. economy has created very few manufacturing jobs during the last twelve months, while employment in the service-producing sectors has continued to rise steadily. In Arizona, manufacturing employment is increasing, but most of the recent gains have resulted from brisk hiring by the state's producers of aircraft, missiles, and other defense - related equipment. Electronics manufacturers that depend on private sector markets are suffering from weak product demand, forcing many to cut back production. Some layoffs have resulted, but the unemployment statistics do not reflect reductions in work schedules among production workers. With the industry "book-to-bill" ratio falling again in April, it will be several months at least before these firms can resume normal operations.

Construction employment remains a bright spot. With 1,500 new jobs last month, the industry employment level reached 109,000, a new record for Arizona. Falling interest rates should keep the home-building sector healthy in the short run, while office construction remains strong despite a surplus of available space. Some layoffs may be observed later in the year if the excess inventory of office space continues to grow.

The retail trade sector produced mixed results last month. Employment was down sharply in the Phoenix area as a strong winter tourism season came to an end, but most areas of the state added jobs. Food stores and restaurants throughout the state have created jobs this year in response to the needs of a rapidly expanding population.

Aside from some expected seasonal declines, most of the service-producing industries were expanding in April. Employment in the financial sector continued to show strong increases, and business, health, and agricultural services also registered significant gains. Hotels and lodging establishments in the northern counties and recreation areas are staffing up for the summer, while new facilities open for business in Tucson are reducing the number of layoffs that usually occur at the end of the winter season.

The current pattern should continue in the near future. Employment in manufacturing will grow as Arizona's defense contractors continue to increase production. Other manufacturing firms, especially in high technology, may continue to lay off workers until market conditions improve. A rising population, combined with a rapidly expanding consumer market, should continue to create job opportunities in the state's retail, financial, and service industries. However, if the electronics industry continues to be plagued by the current slump in product demand, unemployment will rise, and the economy of Arizona will continue to mark time while seeking a new direction.

Arizona Labor Force and Employment

April 1985 (in thousands)

	ARIZONA				
				-- Amt Change --	
	Apr.* 1985	Mar. 1985	Apr. 1984	Mar. to Apr.	1984 to 1985
TOTAL CIVILIAN LABOR FORCE	1473.0	1484.1	1426.7	-11.1	+46.3
Total Unemployment	84.3	84.9	71.4	-0.6	+12.9
Rate	5.7	5.7	5.0	---	---
Rate (Sea. Adj.)**	5.9	5.8	5.2	---	---
Total Employment	1388.7	1399.2	1355.3	-10.5	+33.4

THE ABOVE LABOR FORCE STATISTICS SHOULD NOT

NONAGRICULTURAL WAGE AND SALARY EMPLOYMENT BY PLACE OF WORK

	Apr.* 1985	Mar. 1985	Apr. 1984	Mar. to Apr.	1984 to 1985
TOTAL WAGE AND SALARY	1260.9	1256.7	1174.3	+4.2	+86.6
Manufacturing	180.7	180.1	168.9	+0.6	+11.8
Durable Goods	143.4	142.7	132.8	+0.7	+10.6
Stone, Clay and Glass	7.9	7.7	7.3	+0.2	+0.6
Primary and Fabricated Metals	15.9	16.9	15.6	+0.0	+1.3
Primary Metals	7.2	7.2	6.6	+0.0	+0.6
Fabricated Metals	9.7	9.7	9.0	+0.0	+0.7
Machinery	71.8	71.7	66.9	+0.1	+4.9
Other Durable Goods	46.8	46.4	43.0	+0.4	+3.8
Aircraft and Missiles	21.2	20.9	19.2	+0.3	+2.0
Lumber and Wood Products (Except Furniture)	7.0	6.9	7.1	+0.1	-0.1
All Other Durable Goods	18.6	18.6	16.7	+0.0	+1.9
Nondurable Goods	37.3	37.4	36.1	-0.1	+1.2
Food and Kindred Products	7.9	7.8	7.8	+0.1	+0.1
Apparel	4.6	4.7	5.1	-0.1	-0.5
Printing and Publishing	14.3	14.3	13.3	+0.0	+1.0
All Other Nondurable Goods	10.5	10.6	9.9	-0.1	+0.6
Mining and Quarrying	12.3	12.3	13.5	+0.0	-1.2
Copper Mining	9.6	9.6	10.6	+0.0	-1.0
Other Mining and Quarrying	2.7	2.7	2.9	+0.0	-0.2
Construction	109.0	107.5	92.9	+1.5	+16.1
Trans., Communications, and Public Utilities	62.4	62.7	59.4	-0.3	+3.0
Transportation	28.6	28.9	26.8	-0.3	+1.8
Communications and Public Utilities	33.8	33.8	32.6	+0.0	+1.2
Trade	303.9	303.8	282.4	+0.1	+21.5
Wholesale Trade	62.7	62.9	57.7	-0.2	+5.0
Retail Trade	241.2	240.9	224.7	+0.3	+16.5
General Merchandise and Apparel	38.6	38.8	37.3	-0.2	+1.3
Food Stores	37.0	36.5	34.5	+0.5	+2.5
Automotive and Service Stations	28.8	28.5	26.7	+0.3	+2.1
Eating and Drinking Places	85.5	85.5	79.5	+0.0	+6.0
Other Retail Trade	51.3	51.6	46.7	-0.3	+4.6
Finance, Insurance, and Real Estate	75.3	75.0	70.7	+0.3	+4.6
Services and Miscellaneous	295.3	293.5	273.0	+1.8	+22.3
Hotels and Other Lodging Places	32.4	32.3	28.7	+0.1	+3.7
Business Services	66.1	65.4	59.4	+0.7	+6.7
Health Services	71.0	70.5	68.3	+0.5	+2.7
Other Services	125.8	125.3	116.6	+0.5	+9.2
Government	222.0	221.8	213.5	+0.2	+8.5
Federal	40.1	39.7	38.4	+0.4	+1.7
State and Local	181.9	182.1	175.1	-0.2	+6.8
School	110.8	111.7	108.4	-0.9	+2.4

* Preliminary

** Normal seasonal variations have been eliminated to reflect underlying economic trends.

NOTE--Prepared in cooperation with the U.S. Department of Labor,Bureau of Labor Statistics.

Arizona Labor Force and Employment

April 1985 (in thousands)

MARICOPA COUNTY					PIMA COUNTY				
			-- Amt Change --					-- Amt Change --	
Apr.* 1985	Mar. 1985	Apr. 1984	Mar. to Apr.	1984 to 1985	Apr.* 1985	Mar. 1985	Apr. 1984	Mar. to Apr.	1984 to 1985
938.0	946.3	899.7	-8.3	+38.3	267.9	269.6	260.6	-1.7	+7.3
41.1	41.6	34.8	-0.5	+6.3	14.2	14.1	11.6	+0.1	+2.6
4.4	4.4	3.9	---	---	5.3	5.2	4.5	---	---
4.5	4.5	4.0	---	---	5.5	5.2	4.6	---	---
896.9	904.7	864.9	-7.8	+32.0	253.7	255.5	249.0	-1.8	+4.7

E USED FOR ECONOMIC ASSISTANCE PROGRAMS.

NONAGRICULTURAL WAGE AND SALARY EMPLOYMENT BY PLACE OF WORK

829.1	827.1	763.4	+2.0	+65.7	228.3	227.6	213.9	+0.7	+14.4
131.7	131.5	122.7	+0.2	+9.0	30.8	30.5	28.2	+0.3	+2.6
105.8	105.5	97.5	+0.3	+8.3	25.8	25.5	23.4	+0.3	+2.4
4.7	4.7	4.3	+0.0	+0.4					
11.3	11.2	9.9	+0.1	+1.4					
57.8	57.8	53.9	+0.0	+3.9					
32.0	31.8	29.4	+0.2	+2.6					
25.9	26.0	25.2	-0.1	+0.7	5.0	5.0	4.8	+0.0	+0.2
5.1	5.1	5.3	+0.0	-0.2					
2.8	2.8	3.1	+0.0	-0.3					
10.5	10.5	9.7	+0.0	+0.8					
7.5	7.6	7.1	-0.1	+0.4					
0.6	0.6	0.6	+0.0	+0.0	2.5	2.5	3.7	+0.0	-1.2
76.9	75.8	64.4	+1.1	+12.5	19.9	19.8	17.2	+0.1	+2.7
41.0	41.0	38.2	+0.0	+2.8	8.8	8.8	8.9	+0.0	-0.1
19.6	19.8	17.9	-0.2	+1.7	4.0	4.0	4.0	+0.0	+0.0
21.4	21.2	20.3	+0.2	+1.1	4.8	4.8	4.9	+0.0	-0.1
206.8	207.0	191.7	-0.2	+15.1	50.3	50.1	46.8	+0.2	+3.5
49.5	49.1	45.9	+0.4	+3.6	7.3	7.2	6.4	+0.1	+0.9
157.3	157.9	145.8	-0.6	+11.5	43.0	42.9	40.4	+0.1	+2.6
24.1	24.3	23.6	-0.2	+0.5	7.5	7.7	7.3	-0.2	+0.2
23.6	23.3	22.1	+0.3	+1.5	5.9	5.8	5.5	+0.1	+0.4
18.5	18.4	16.8	+0.1	+1.7	4.5	4.4	4.3	+0.1	+0.2
55.3	55.8	51.0	-0.5	+4.3	16.3	16.2	15.1	+0.1	+1.2
35.8	36.1	32.3	-0.3	+3.5	8.8	8.8	8.2	+0.0	+0.6
58.7	58.5	55.1	+0.2	+3.6	10.6	10.6	10.0	+0.0	+0.6
201.9	201.5	184.6	+0.4	+17.3	54.6	54.4	50.2	+0.2	+4.4
20.1	20.5	17.2	-0.4	+2.9	4.9	5.1	4.5	-0.2	+0.4
53.7	53.4	49.3	+0.3	+4.4	9.6	9.4	8.0	+0.2	+1.6
48.2	48.0	46.2	+0.2	+2.0	14.3	14.1	13.9	+0.2	+0.4
79.9	79.6	71.9	+0.3	+8.0	25.8	25.8	23.8	+0.0	+2.0
111.5	111.2	106.1	+0.3	+5.4	50.8	50.9	48.9	-0.1	+1.9

-- Prepared by Labor Market Information, Research and Analysis (CPS, 1/85)

NONMETROPOLITAN COUNTIES
LABOR FORCE AND EMPLOYMENT
APRIL 1985

	Apache	Cochise	Coconino	Gila	Graham	Greenlee	La Paz
TOTAL CIVILIAN LABOR FORCE*.	15,250	29,000	35,925	12,825	7,825	3,075	4,725
Total Unemployment	2,075	2,250	2,850	1,575	900	425	675
Rate	13.6%	7.8%	7.9%	12.3%	11.5%	13.8%	14.3%
Rate (Seas. Adj.)**. . . .	15.0%	7.9%	8.3%	12.5%	11.6%	14.4%	-INA
Total Employment	13,175	26,750	33,075	11,250	6,925	2,650	4,050

THE ABOVE LABOR FORCE STATISTICS SHOULD NOT BE USED
FOR ECONOMIC ASSISTANCE PROGRAMS

	Apache	Cochise	Coconino	Gila	Graham	Greenlee	La Paz
TOTAL WAGE AND SALARY. . . .	14,650	23,150	33,125	9,750	4,675	2,650	2,475
Manufacturing.	600	1,925	2,425	1,250	150	75	75
Mining and Quarrying	25	175	50	1,600	50	1,525	0
Construction	1,075	1,400	1,575	425	150	100	75
Trans., Comm., & Pub. Util..	1,975	1,425	2,475	300	150	50	50
Trade.	1,300	4,925	7,550	1,925	1,350	275	825
Fin., Insur., & Real Estate.	275	650	725	225	125	25	75
Services and Miscellaneous .	4,000	3,100	7,725	1,775	750	100	650
Government	5,400	9,550	10,600	2,250	1,950	500	725

	Mohave	Navajo	Pinal	Santa Cruz	Yavapai	Yuma
TOTAL CIVILIAN LABOR FORCE*.	24,075	24,700	32,425	8,625	32,875	35,825
Total Unemployment	2,600	2,900	3,900	950	2,150	5,825
Rate	10.8%	11.7%	12.0%	11.0%	6.5%	16.3%
Rate (Seas. Adj.)**. . . .	11.0%	12.1%	12.5%	13.0%	6.5%	-INA-
Total Employment	21,475	21,800	28,525	7,675	30,725	30,000

THE ABOVE LABOR FORCE STATISTICS SHOULD NOT BE USED
FOR ECONOMIC ASSISTANCE PROGRAMS

	Mohave	Navajo	Pinal	Santa Cruz	Yavapai	Yuma
TOTAL WAGE AND SALARY. . . .	17,575	18,200	25,950	8,250	19,700	3,275
Manufacturing.	2,275	1,750	3,225	775	2,150	1,600
Mining and Quarrying	225	1,125	3,700	0	650	50
Construction	1,400	850	1,025	300	1,750	2,025
Trans., Comm., & Pub. Util..	1,125	1,575	1,175	575	900	900
Trade.	4,950	3,275	4,550	3,625	5,100	7,175
Fin., Insur., & Real Estate.	850	375	700	250	800	875
Services and Miscellaneous .	3,550	4,675	3,050	1,250	3,850	4,225
Government	3,200	4,575	8,525	1,475	4,500	6,425

*Adjusted to the Current Population Survey (CPS) to reflect place of residence.
**Seasonal adjustment not applicable for economic assistance programs.

NOTE--Series for Yuma and La Paz counties start January 1983. Data are not comparable to any past series.

Prepared in conjunction with the U.S. Department of Labor, Bureau of Labor Statistics

ARIZONA LABOR FORCE AND EMPLOYMENT FOR ECONOMIC ASSISTANCE PROGRAMS
APRIL 1985

County	Civilian Labor Force	Employment	Unemployment	Rate
Statewide	1,473,040	1,388,731	84,309	5.7%
Apache	15,258	13,191	2,067	13.5
Cochise	29,013	26,752	2,261	7.8
Coconino	35,922	33,073	2,849	7.9
Gila	12,824	11,261	1,563	12.2
Graham	7,833	6,936	897	11.5
Greenlee	3,085	2,650	435	14.1
La Paz	4,713	4,039	674	14.3
Maricopa	937,950	896,897	41,053	4.4
Mohave	24,081	21,480	2,601	10.8
Navajo	24,698	21,809	2,889	11.7
Pima	267,918	253,729	14,189	5.3
Pinal	32,424	28,526	3,898	12.0
Santa Cruz	8,619	7,667	952	11.0
Yavapai	32,876	30,719	2,157	6.6
Yuma	35,826	30,002	5,824	16.3

These figures are the only official BLS labor statistics to be used for revenue sharing purposes. They are not designed to be used as economic indicators. Note: Series for Yuma and La Paz counties start January 1983. Data are not comparable to any past series.

ESTIMATED HOURS AND EARNINGS OF PRODUCTION WORKERS IN SELECTED INDUSTRIES IN ARIZONA
APRIL 1985

------------ ESTIMATED HOURS AND EARNINGS OF PRODUCTION WORKERS IN SELECTED INDUSTRIES IN ARIZONA ------------
APRIL 1985

INDUSTRY	AVERAGE WEEKLY EARNINGS			AVERAGE WEEKLY HOURS			AVG. HOURLY EARNINGS		
	APR.* 1985	MAR. 1985	APR. 1984	APR.* 1985	MAR. 1985	APR. 1984	APR.* 1985	MAR. 1985	APR. 1984
	----	----	----	----	----	----	----	----	----
FOR THE STATE OF ARIZONA*									
Manufacturing	382.85	379.22	373.42	40.3	40.3	40.9	9.50	9.41	9.13
Aircraft & Missiles	INA	INA	INA	INA	INA	INA	INA	INA	INA
Food & Kindred Products	303.07	329.26	315.75	40.9	40.5	38.6	7.41	8.13	8.18
Primary Metals	509.04	497.32	473.37	40.4	40.4	37.9	12.60	12.31	12.49
Machinery	339.63	340.16	341.07	39.4	39.6	40.7	8.62	8.59	8.38
Copper Mining	587.30	576.72	525.60	42.9	42.5	39.4	13.69	13.57	13.34
Construction	429.69	422.33	420.95	36.2	35.7	36.7	11.87	11.83	11.47
Utilities	566.80	566.80	531.27	43.6	43.6	42.4	13.00	13.00	12.53
Retail Trade**	235.55	235.55	248.68	35.0	35.0	34.3	6.73	6.73	7.25
Wholesale Trade	363.06	364.42	353.63	38.5	38.4	39.6	9.43	9.49	8.93

* Preliminary

** Excludes eating and drinking places.

NOTE--These estimates are based on a sample of full and part-time production and related employees whose payroll and hours are reported for the pay period which includes the 12th of the month. Prepared in cooperation with the U.S. Department of Labor,Bureau of Labor Statistics.

--Prepared by Labor Market Information, Research and Analysis (1972 SIC, 1/84)

ARIZONA UNEMPLOYMENT INSURANCE ACTIVITIES - MARCH 1985

	MARCH 1985	FEBRUARY 1985	MARCH 1984	% Change From One Year Ago
Arizona Claimants Served*	28,698	25,746	30,282	- 5.2%
Arizona Average Weeks Unemployed**	8.7	8.3	9.3	- 6.5%
Arizona Benefits Paid*	$ 9,284,576	$ 8,017,128	$ 10,855,611	-14.5%
Arizona Trust Fund Balance	$245,896,002	$251,846,691	$160,999,182	+52.7%

*All Programs
**UI Only

EMPLOYMENT IN ARIZONA: WHAT WILL HAPPEN IF . . .?

Economists are often asked questions such as "What will happen to employment if there is a recession?"; "How low can the unemployment rate go?"; or "What would happen to construction employment if interest rates rise?". This article will attempt to answer these questions and others by simulating the effects of two different national economic scenarios on employment using a model of the Arizona economy.

The first scenario assumes that the national economy gains momentum in the second half of this year causing the Federal Reserve to tighten the money supply to prevent a rise in inflation. Unfortunately, the Fed overreacts and interest rates rise dramatically, inducing a recession beginning in the second quarter of 1986 and ending in the first quarter of 1987. Although interest rates ease in 1987, real Gross National Product (GNP) growth remains a sluggish 1.4 percent for the year.

In the second scenario, the nation continues to experience the strong growth that began in 1983. Interest rates continue to decline through 1986 and real GNP grows a healthy 4.2 percent in 1985 and 3.8 percent in 1986. This strong growth is also accompanied by an inflation rate of around 3 percent. For a comparison of some of the key national variables in each scenario, see Table I.

RECESSION SIMULATION

The recession simulation begins with the economy performing very well in 1985. In fact, the strong national economy in the second half of the year causes Arizona's employment to be greater and unemployment lower in the recession simulation than in the optimistic simulaton in 1985. However, by 1986, rising interest rates and a declining real GNP result in the state's unemployment rate rising to 7.4 percent and employment growth slowing to just over 1 percent. Locally, Maricopa County's unemployment rate would rise to 5.6 percent in 1986 from 4.2 percent in 1985; unemployment would rise in Pima County to 7.3 percent of the labor force from 5.4 percent; the non-metro counties would experience an unemployment rate of 13.6 percent, up from 11.3 percent the previous year.

As in most recessions, construction employment is the first to experience significant layoffs. In 1986, construction employment declines by 4.5 percent statewide with even greater losses in Pima County and the non-metro counties. In Maricopa County, construction employment declines by only 3.2 percent. The stronger performance in Maricopa County is due primarily to two factors. The first factor is the large amount of public works construction currently underway or scheduled to begin in 1986. The second factor is that the county is going to continue to attract a large number of people from other parts of the country, creating a strong demand for housing. This strong population growth is unlikely to be affected by the recession since the county's unemployment rate will still be well below the national rate.

Manufacturing employment typically lags behind the business cycle and this recession is no exception. Unlike construction employment, manufacturing employment manages to grow slightly in 1986, increasing by 1.7 percent. This rate is significantly below the 9.4 percent growth experienced in 1985. The hardest hit industry is non-electrical machinery manufacturing which loses over 600 jobs, primarily in Maricopa County. Employment growth also slows considerably in electrical machinery (2.1 percent) where many of the state's "high-tech" firms are classified. The one industry that helps to stabilize employment is aircraft and missiles. With a strong boost from defense spending, this industry experiences a 7.3 percent increase in employment, statewide, in 1986.

Employment growth also slows considerably in the trade and service industries in 1986. In fact, the 2.2 percent growth in service employment, statewide, would be the lowest on record. Particularly sluggish sectors include the hotels and motels and business services in Maricopa County. The hotel and motel industry typically experiences slow growth during recessions due to fewer dollars available for vacations and a reduction in convention attendance. Growth in business service employment slows because of weaker demand for temporary help, the reduction in advertising that occurs during recessions and slower business formation which reduces the need for janitorial services. Trade employment grows by only 1.7 percent in 1986, the third lowest rate on record. Clearly, the fall in demand during a recession will reduce employment in sectors like department stores and automotive trade.

The finance, insurance, and real estate (F.I.R.E.) and transportation, communication, and public utilities (T.C.P.U.) industries, overall, tend to be less cyclical than the above industries. The slower employment growth that does occur is primarily due to declines in real estate and transportation employment. Government employment, also fairly insenitive to the business cycle, continues to grow at a modest rate.

The mining industry continues to have problems in 1985, losing 2.3 percent of its employment. However, the strong economy in late 1985 results in some employment growth in 1986.

The recession finally starts to end by spring of 1987 as interest rates decline. Spurred by lower interest rates, the construction industry begins to recover in 1987 and manages to increase employment by 2.7 percent statewide. Manufacturing employment, because of its lagging nature, declines in 1987 by 1.1 percent. The most severe reductions occur in the aircraft and missile sector, due to cuts in the defense budget; and .the non-electrical machinery sector, particularly those related to computer manufacturing. Employment in the semiconductor industry is expected to grow, but only by 1.4 percent.

The trade and service industries moves in opposite directions in 1987. The trade industry loses 800 jobs for the year, mostly related to weakness in manufacturing. This is illustrated by the sub-state data. In Maricopa County, where the loss in manufacturing employment is greatest, the loss in trade employment is also greatest. Service employment, on the other hand, grows by

3 percent in 1987. This growth takes place primarily in medical services and hotels and motels.

Mining employment declines significantly in 1987, reflecting its lagging nature. For the year, 3,500 jobs are lost statewide.

Overall, 1987 is not a very good year for Arizona. The loss of jobs in manufacturing and trade helps to boost the state's unemployment rate to 7.5 percent. For the year, employment grows by only 0.7 percent.

By 1988, the recovery is gaining strength, resulting in employment growth in the state of 5.5 percent and the decline of the unemployment rate to 5.5 percent. Locally, the unemployment rate declines to 4.5 percent in Maricopa County, 4.8 percent in Pima County and 9.7 percent in the nonmetro counties. Manufacturing employment, particularly "high-tech" manufacturing, experiences growth comparable to 1984. Lower interest rates also help to further boost the recovery in the construction industry that began in 1987. Strong employment growth also takes place in the remaining industries (See Table II for details).

OPTIMISTIC SIMULATION

The optimistic simulation assumes that the state and national economies will grow at a rate approaching their long run trend. Statewide, employment increased by 4.5 percent in 1985, 3.5 percent in 1986, 3.0 percent in 1987, and 3.4 percent in 1988. In the short run, the state's unemployment rate rises, due primarily to strong population growth. However, unemployment peaks in 1986 at a fairly low level of 6.1 percent of the labor force. By 1988 the unemployment rate is down to 4.2 percent.

Over the four year period, approximately 209,000 jobs are added to the state economy. The vast majority of these new jobs, about 70 percent, are in Maricopa County. Pima County's employment increases by over 34,000 and the nonmetro counties have an additional 25,200 people employed.

The industry with the largest number of new jobs by 1988 is trade with over 55,000. Services is a close second with additional employment of 51,300. Within trade and services, the fastest growing sectors are wholesale trade, eating and drinking establishments, business services, and all other services (legal, personal, and educational).

Arizona's manufacturing industry by this simulation has an additional 42,400 workers by 1988. However, this growth is not distributed proportionally among the counties. Maricopa County receives approximately 82 percent of this growth (34,900 jobs), due primarily to military-related and semiconductor manufacturing. Manufacturing employment in the nonmetro counties increases by 5,200. The best performing sectors in the rural areas are stone, clay and glass, nonelectrical machinery and electrical machinery. Pima County, on the other hand, appears to have some problems with its manufacturing industry in the short run, losing employment in both 1986 and 1987. The sources of these losses are related to problems in the small aircraft, fabricated metals, and non-electrical machinery (computer-related) industries. By 1988, however, growth resumes and the long run outlook is good.

Lower interest rates in the optimistic simulation help to boost construction employment considerably. Statewide, employment in the industry grows by over 21 percent from 1984 to 1988. In Maricopa County there are an additional 12,700 construction workers, a 19.2 percent increase. The majority of the growth would be among general contractors and special trades. Pima County experiences an even larger percentage increase (20.3 percent) than Maricopa County. In Pima County, though, the employment growth is spread among all categories of construction. The nonmetro counties also see an increase in construction activity over the next four years. This activity translates into 3,800 jobs and a 32.2 percent increase by 1988.

Mining employment also recovers in the optimistic simulation. The strong national economy and presumably improved international economy help to draw down the worldwide stock of copper, thus increasing its price and improving the profitability of Arizona mines.

Government, F.I.R.E. and T.C.P.U. all grow at modest rates throughout the next four years. The only exception is a slight decline in the communications and public utilities sector in Maricopa County in 1987. This is probably related to cost cutting by utilities.

SUMMARY

The above analysis illustrate two possible alternative paths that the nation's economy might take and the resulting impact on employment in Arizona. Overall, the optimistic simulation results in 30,700 more jobs in Arizona by 1988 than does the recession simulation. Also, there are 21,000 fewer people unemployed in 1988 in the optimistic simulation. For the most part, employment levels are higher in 1988 in each industry under the optimistic simulation. However, the stronger 1985 and 1988 in the recession simulation did result in the employment levels in services, T.C.P.U., and F.I.R.E. being higher than in the optimistic simulation. As pointed out above, these industries tend to be less cyclical, particularly on the down side. It appears that the two strong years in the recession simulation more than compensated for the two weak years in these three industries. Finally, it should be noted that this aricle is for illustrative purposes only and is not a forecast of things to come. See the March issue of this NEWSLETTER for the DES employment and unemployment projections.

David Sinclair

TABLE I
RECESSION SIMULATION

	1985	1986	1987	1988
Real GNP Growth Rate	4.60	1.10	1.40	4.40
Average Prime Rate	11.18	14.57	13.01	12.41
U.S. Housing Starts (millions)	1.87	1.40	1.79	1.98
U.S. Unemployment Rate	6.90	7.30	8.20	7.80
U.S. Car Sales (millions)	11.40	10.20	9.40	10.00
Inflation Rate (CPI)	3.80	5.10	5.00	5.40

OPTIMISTIC SIMULATION

	1985	1986	1987	1988
Real GNP Growth Rate	4.20	3.80	4.00	3.50
Average Prime Rate	9.80	8.90	9.20	8.80
U.S. Housing Starts (millions)	1.82	2.01	2.08	2.08
U.S. Unemployment Rate	7.00	6.80	6.60	6.40
U.S. Car Sales (millions)	11.00	11.20	11.50	11.60
Inflation Rate (CPI)	3.10	3.30	3.80	4.90

TABLE II

ARIZONA
RECESSION SIMULATION
(annual averages, in thousands)

	1984	1985	PERCENT CHANGE	1986	PERCENT CHANGE	1987	PERCENT CHANGE	1988	PERCENT CHANGE
Labor Force	1432.0	1517.4	6.0	1565.2	3.1	1577.2	0.7	1629.2	3.2
Unemployment	71.0	87.6	23.4	116.8	33.2	118.4	1.3	89.9	-24.0
Employment	1361.0	1429.8	5.1	1448.5	1.3	1458.9	0.7	1539.3	5.5
Unemployment Rate	5.0%	5.7%		7.4%		7.5%		5.5%	
Wage and Salary Employment	1180.8	1253.2	6.1	1268.5	1.2	1277.4	0.7	1348.9	5.6
Manufacturing	172.3	188.5	9.4	191.8	1.7	189.6	-1.1	208.0	9.7
Mining	13.3	13.6	2.3	14.2	4.6	10.7	-24.5	12.3	14.8
Construction	96.2	103.9	8.0	99.2	-4.5	101.9	2.7	113.0	10.8
TCPU	60.4	63.5	5.1	66.0	3.9	65.8	-0.3	66.9	1.7
Trade	286.7	307.0	7.1	312.6	1.8	311.8	-0.2	326.9	4.8
Fire	71.7	74.6	4.0	75.7	1.4	78.0	3.1	81.8	4.8
Services	274.1	292.3	6.6	298.8	2.2	308.0	3.0	326.1	5.8
Government	206.1	209.9	1.8	210.2	0.1	211.5	0.5	213.8	1.0

NOTE: Annual averages may not add due to rounding. Percent changes are calculated using unrounded figures.

TABLE III

ARIZONA
OPTIMISTIC SIMULATION
(annual averages, in thousands)

	1984	1985	PERCENT CHANGE	1986	PERCENT CHANGE	1987	PERCENT CHANGE	1988	PERCENT CHANGE
Labor Force	1432.0	1513.1	5.7	1569.9	3.7	1600.0	1.9	1638.9	2.4
Unemployment	71.0	90.4	27.3	97.2	7.5	81.9	-15.7	68.8	-15.9
Employment	1361.0	1422.7	4.5	1472.7	3.5	1518.1	3.0	1570.0	3.4
Unemployment Rate	5.0%	5.9%		6.1%		5.1%		4.2%	
Wage and Salary Employment	1180.8	1246.7	5.6	1290.7	3.5	1330.4	3.0	1376.3	3.4
Manufacturing	172.3	186.6	8.3	196.8	5.4	204.1	3.7	214.7	5.1
Mining	13.3	13.2	-0.8	14.2	7.9	15.0	5.1	15.1	0.8
Construction	96.2	102.1	6.1	107.9	5.6	112.3	4.1	116.5	3.7
TCPU	60.4	63.1	4.4	64.4	2.0	64.3	-0.2	64.9	0.9
Trade	286.7	306.1	6.8	316.5	3.3	327.2	3.3	342.0	4.5
Fire	71.7	74.1	3.3	75.5	2.0	78.1	3.4	80.9	3.4
Services	274.1	291.6	6.4	304.0	4.2	314.8	3.5	325.4	3.3
Government	206.1	209.9	1.8	211.4	0.6	214.6	1.5	216.8	1.0

NOTE: Annual averages may not add due to rounding. Percent changes are calculated using unrounded figures.

NEW DEVELOPMENTS

"New Developments" is featured each month as a service to employers and job seekers. It is a compilation of public announcements of the more significant new construction, grand openings, major hirings and layoffs, and other employer events that have special significance for Arizona labor markets. The announcements are paraphrased and otherwise edited from articles published in newspapers and other periodicals from throughout the state. "New Developments" are limited to space available, and no attempt is made to compile an exhaustive list of all such events that have occurred during the month.

CONSTRUCTION - Phoenix could become home to the tallest building in the world if international businessman George Schriqui gets his way. His plan is for a 114-story, 1,692 foot tower taking in eight blocks bounded by Central and Third Street, and Moreland and Garfield Streets. The building would be 238 feet taller than the Chicago Sears Tower and triple the number of stories of the Valley Bank Center downtown, which is now Phoenix's tallest building. Inside the tower would be 2.8 million square feet of space: 15 levels of townhouses and condominiums, 23 levels with 480 hotel rooms, two levels of restaurants, two levels of retail shops, and 72 levels of offices. Schriqui says he picked Phoenix because it was in its "takeoff" phase and that his discussions (of the height) with city and community leaders as well as European investors told him that, "they need that drama--they are looking for a kind of identity." City and state officials already have agreed to spend $58,000 to study whether special access can be provided from Central to the freeway, and aviation officals will have to grant a height waiver for the building to go ahead.

Ground was broken May 6 on a $20 million jai alai complex to be located on the northern edge of the Gila River Indian Reservation. Jai alai competition, which somewhat resembles handball, will bring the first pari-mutual betting on the sport in Arizona and with it some $7 million or more annually to the Gila River Community. The facility is expected to create 500 jobs, a third of which are guaranteed to the Indian people. C.A.H.R. Inc., which is doing the construction, will also donate $1 million a year from a 1 percent tax to a special fund for educational and health needs on the reservation. Arizona Attorney General Robert Corbin, however, feels that jai alai betting violates the state criminal code and also that organized crime could become involved. He says, "Las Vegas can't control it. Atlantic City can't control it. What makes the Indians think they can control it?" Mr. Corbin says he will file suit in federal court to shut the games if gambling is allowed. The complex is due to open in October 1986.

Tempe's planned "Corporate Lakes" project has been expanded from a $400 million project to a $735 million project which will include a major shopping mall, apartments, and condominiums. The revised plan will expand the original 3.6 million square-foot complex to 5.6 million square feet, with 1 million squre feet of additional space devoted to residential housing. Tom Baker, senior vice president for the Wolfswinkel Group of Mesa, the developer, said "We're talking about doing a major retail complex like the Biltmore Fashion Park." The development will be situated on 133 acres bounded by Baseline Road, the Superstition Freeway, Interstate 10, and Priest Drive. The mall will front Baseline Road and have a lake system behind it.

Office space in Tucson is now about 4 million square feet with a vacancy rate of 19.5 percent. However, once all the commercial buildings now being built or planned are completed, office space will increase about 50 percent to 6 million square feet. This is according to a survey conducted by the Del E. Webb Realty and Management Company. The survey showed that 43 office buildings are being built or are in the planning stage. The average size of these new buildings is 43,500 square feet, substantially more than the 32,000 square-feet average of the area's 127 existing office buildings. The building activity is spread throughout several areas: the northwest side, the east side, and the far west side of Tucson will get 500,000 to 548,000 square feet each. The remainder of the projected 2 million square-feet increase will go to the central and downtown areas.

The Phoenix Civic Plaza has spent $40 million on its expansion that began in 1982 and the results will be seen on June 1, when the new plaza opens. The addition includes a 28,000 square-foot ballroom, 300,000 square feet of exhibit space, and 43 meeting rooms. Also expanded were the kitchen facilities which will now have a feeding capacity of 10,000 people. Dennis Maus, Civic Plaza director says that, due to the expansion, the Plaza will be able to bid for and handle "98 percent of the conventions being held in the country today."

Arizona Futures Corporation is hoping to get a long-term ground lease on an 800-acre parcel of state-owned land in northeast Scottsdale. The land will go up for auction at the end of the year, and Arizona Futures Corporation hopes to be able to use it for a "Scottsdale Futures Park" which is expected to employ some 25,000 people. The park would provide businesses with centralized computer facilities and messenger and financial services. A "New Ventures Incubator Center" would provide managerial support and venture capital to new companies. At a "National Center for Aging Well" researchers would focus on how to stay healthy while living longer. The employees themselves would be surrounded by high-tech amenities, including a teleconferencing center, a minibus, and a helicopter shuttle system. The project is expected to be completed within five years.

EDUCATION - On June 27 and 28 Vocational Industrial Clubs of America (VICA) will bring 6,000 vocational students and teachers to the Phoenix Civic Plaza. This will be Phoenix's biggest convention of the year and it will inject $3.2 million into the state's economy, according to Mayor Terry Goddard. Carolyn Warner, state superintendent of public instruction, said that vocational education "is not getting the attention it should" at the national level and that a "surge in that area is long past due." She said 1985 and 1986--the two years for the Phoenix VICA conventions--"promise to be landmark years for vocational education in Arizona." Mayor Goddard added that the convention will be the first to use the newly completed addition to the Civic Plaza to capacity.

HOTELS & MOTELS - Arizona's lodging industry (motels, hotels, and trailer parks) generated receipts of $538 million and paid $150 million to 22,000 employees in 1982, according to the Census of Service Industries conducted by the U.S. Bureau of the Census. Receipts per establishment within the entire lodging industry averaged $764,000 in 1982 and employment per establishment averaged 31 workers. Employee pay averaged just $6,800, which indicates the industry's need for part-time and seasonal workers as well as for a large number of unskilled workers. One half of the motels, hotels, and trailer parks were outside the metropolitan areas of Arizona, yet due to their small size, their share of the industry's employment and receipts was only about 25 percent. In contrast, lodging establishments in Maricopa County numbered only about 33 percent of the state total, but they generated 60 percent of total receipts. Copies of this study can be obtained from the Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402.

MINING - Phelps Dodge claims that it is at about "break even" despite hard times that have fallen on the industry since 1982 and a strike that started on July 1, 1983 at the Morenci and Ajo facilities. In fact, Phelps Dodge claims that it came out ahead in the strike and, as far as the weak copper market goes, Leonard Judd, Phelps Dodge's new chief of western mining operations said, "We can take advantage of a strong market, we can hold our own in a weak market -- we think we can hold our own in any case." This optimism comes about despite current copper prices that remain far below the average cost of its production. In fact, Phelps Dodge, the nation's largest independent copper company, is moving to concentrate more on copper and less on other interests while other copper companies are divesting themselves of copper properties. The key to success now, Phelps Dodge says, is for copper inventories to continue dropping enough to drive copper prices back up.

REAL ESTATE - The Phoenix area is attracting even the most conservative investors to its real estate market. Syndicators, real estate investors, pension funds, lending institutions, and individual investors are all attempting to acquire properties in Phoenix. In fact, real estate dollars, which have been traditionally originated locally, as in neighboring California, are now flowing in from all parts of the country. Why? Well, the phenomenon can largely be explained by the area's sound economic and demographic indicators. Over the past decade, Arizona was the fourth fastest growing state in the country with a population increase of almost 40 percent. Arizona ranked fifth nationally in the rate of job growth over the past ten years with an increase of 49 percent. Also, Arizona ranked sixth nationally in the growth rate of personal income over the past decade with an increase of over 218 percent. Maricopa County also had solid growth. Between 1973 and 1983 population in the county increased by 43 percent, and retail sales increased by over 204 percent. Looking at 1984, estimations of the population increase in metro-Phoenix run as high as 90,000. Over 22,000 new apartment units were built in 1984, yet the overall vacancy rate increased only slightly. The basic fuel for all of this growth and the foundation of investor optimism is the employment market. The unemployment rate in the Phoenix area is about 4 percent, which is well below the national average. Also, the recent employment growth rate has been over 8 percent, which is twice the national average. New jobs are being created each of the past two years at a rate of about 65,000 new jobs. More and more firms are opening new facilities, existing firms are expanding, and investors are positioning themselves to get their piece of the expanding pie.

The Phoenix Community Alliance (PCA), comprised of local builders, real estate developers, and other prominent business people, has proposed a concept called "Superblock." The Phoenix City Council has endorsed the project, and an urban design firm hired by the Alliance reported that master planning six blocks at a time into one cohesive development is the best way for downtown Phoenix development to begin. The starting point, PCA believes, should focus on the general area between Van Buren and Roosevelt to the north, Central to the west, and Seventh Street to the east. This area would fit into the existing development pattern and encourage walking between the Civic Center, the Symphony Hall, and downtown's major hotels. While the land has not yet been bought by developers, the Alliance is preparing to plan and coordinate both the Superblock and the area surrounding it "for the collective benefit of the community and the collective benefit of the developers."

A study by Coldwell Banker, a real estate company, reported that Phoenix has the lowest industrial-vacancy rate among major cities in the country. That rate dropped to 1.7 percent during the first quarter of 1985 from 3.2 percent in the last quarter of 1984. This was due to a surge in rentals and a slow-down in the construction of large industrial buildings. The national industrial-vacancy rate is 4.8 percent. In contrast, the same study showed that Phoenix also has one of the highest office-space vacancy rates in the U.S. among major cities. Overbuilding is blamed. The downtown area's rate is 20.7 percent and the suburban area's is 24.9 percent. However, another study shows that, although the office-vacancy rate is high in Phoenix, the number of office workers employed here has been growing faster than in any other major city in the country. Colliers International Property Consultants says Phoenix has the highest annual growth rate--4.49 percent--in office employment since the end of 1982. Tom Richardson of Colliers said, "The same factors that helped make Phoenix a popular resort and retirement community are now contributing to the sustained growth of the city." Nationally, office vacancy rates are 15.3 percent for downtown offices and 18.9 percent for suburban offices.

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ARIZONA LABOR MARKET INFORMATION NEWSLETTER

Vol. IX No. 7
July 1985

Unemployment Rate

Seasonally Adjusted
May*

ARIZONA	6.1%
Maricopa Co.	4.6%
Pima Co.	5.1%
UNITED STATES	7.3%

Consumer Price Index

National-April
1967 - Base Year

Wage Earner/Clerical Worker -	316.7
% Chg. Yr. Ago	4.1
All Urban -	320.1
% Chg. Yr. Ago	3.7

Phoenix-1st Qtr. 1985
1977 - Base Year

All Urban -	187.8
% Chg. Yr. Ago	5.9

Producer Price Index

National-May*
1967 - Base Year

All Commodities	309.9
% Chg. Yr. Ago	0.6
Finished Goods	294.2
% Chg. Yr. Ago	1.1

*Preliminary

THE ARIZONA ECONOMY: Personal Income in 1984

At first glance, personal income (PI) statistics appear to be a bewildering array of large numbers. The latest set of statistics, released in May by the Bureau of Economic Analysis (BEA), U.S. Department of Commerce, show that PI in Arizona rose to $35.5 billion in 1984. BEA also published estimates of 1983 PI for the nation's counties and metropolitan areas. This is a good time to examine the numbers and to see what they reveal about Arizona's economic performance during the last two years.

PI is the sum of all income received by individuals, including wage and salary disbursements, other labor income, farm income, proprietor's income, rent, dividends, interest, and transfer payments, less personal contributions for social insurance. Wages, salaries, and other labor income (which are also referred to as nonfarm earnings) represent the bulk of PI, but dividends, interest, and rent represented over 20 percent of the total last year, while transfer payments accounted for nearly 15 percent in 1984.

In reporting the PI estimates for 1984, BEA indicated that Arizona's increase of 12.5 percent ranked third among the 50 states, with Iowa and South Dakota each posting gains of better than 13 percent. These two farm states were hit especially hard by the 1981-1982 recession, and PI did not rebound in 1983 as strongly as it did in many other states. When the two-year period 1982-1984 is examined, only Georgia, with an increase of 22.5 percent, outpaced the 22.1 percent growth rate observed in Arizona.

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Nancy Augustin, editor

What do the numbers mean? Certainly, the familiar story of the rapid growth of the Arizona economy since the recession is supported by the evidence of strong growth in PI. A closer look at the figures reveals some interesting facts.

While the increase in total PI is impressive, it is not unexpected. Arizona has led the nation in the rate of employment growth for much of the last two years; with the number of jobs and people in the state rising so rapidly, it's no surprise that PI was expanding as well.

A different perspective is gained by converting the PI statistics to a per capita basis. BEA estimated per capita PI by dividing the total PI in each area by the latest Census Bureau population estimates. Per capita PI in Arizona increased to $11,629 in 1984, a 9.2 percent increase over 1983. Although this represented the fastest growth rate in any of the western, mountain, and southwestern states, it ranked only twentieth among the 50 states. This can be explained by several factors: (1) income growth was strong throughout the Plains states, due to exceptionally depressed farm income during the recession; (2) the industrial regions of the Great Lakes states experienced a comeback in key income-producing sectors, especially automobiles; and, (3) in the case of Arizona, many high-paying jobs in the mining and smelting industries were eliminated, while a large proportion of the gains in employment were in industries such as services and retail trade, where average wages are somewhat lower. In fact, Arizona's 1984 per capita PI growth rate of 9.2 percent was only slightly higher than the national average of 8.7 percent.

It is hard to determine at the state and local levels what these statistics mean in real terms. In other words, what was the real increase in purchasing power for Arizonans after price inflation is taken into account? Unfortunately, no consumer price index exists that specifically measures the rate of price increases throughout Arizona. The U.S. Consumer Price Index (CPI), compiled by the Bureau of Labor Statistics (BLS), estimates that prices rose by about 4.3 percent on average during 1984, while the Metropolitan Phoenix CPI, calculated by the Bureau of Business and Economic Research at Arizona State University, indicated a 1984 inflation rate of about 5.8 percent in the Phoenix area. So, depending on the inflation rate one wishes to use, real per capita PI increased by about 3.5 to 5 percent in Arizona last year; not bad at all, but somewhat less dazzling than the 12.5 percent increase in total PI.

Another comparison of Arizona to the other states is significant -- how does the level of income in Arizona compare to that of other states? Again, the per capita figures provide an interesting contrast. Arizona's average of $11,629 in 1984 ranked thirty-second among the 50 states. Of all the western and southwestern states, only Oregon and New Mexico ranked lower, while the Rocky Mountain states included three (Montana, Idaho, and Utah) which ranked lower in per capita PI.

Once again, it is not surprising that Arizona, in addition to the states mentioned above, would rank below many northern and midwestern states that are farther along the long-term path of economic development. As people, corporations, financial institutions, and emerging industries move into the state, the gap in income between Arizonans and the citizens of the industrialized states should narrow, right? The answer is a qualified "maybe." Per capita PI in Arizona in 1984 was about 92 percent of the national average of $12,707. During the recession year of 1982, per capita PI in Arizona was only 90 percent of the national average, so it is clear only that Arizona is moving in the right direction and rapidly improving its position.

Unfortunately, memory can be short, and the recent past may be a distant memory. During the period 1979-1981, a time when mining and smelting were flourishing, construction was very strong, and manufacturing activity was expanding, per capita PI in Arizona averaged about 93 percent of the national level. In this context, despite the impressive growth over the last two years, Arizonans on average have actually lost ground, relative to residents of the rest of the U.S., since 1981.

Of course, these statistics are merely averages of aggregated wages, salaries, profits, interest, transfers, etc., and do not accurately reflect the fortunes of any given group or individual. They do shed some light on the overall performance of the regional economy relative to other regions. It would be especially interesting if the PI statistics could be adjusted to reflect the substantial differences in living costs throughout the U.S. to provide a better measure of "real" PI. Unfortunately, while the regional CPIs computed by BLS can measure the rate of price increases within a region, they cannot measure differences in price levels across regions. BLS used to produce a statistical series consisting of average budgets required to maintain low, intermediate, and high living standards for a hypothetical family of four, and these were available for metropolitan areas throughout the U.S. However, this statistical series was discontinued several years ago due to budget cuts, and it is unlikely to be resumed in the future. This makes a valid comparison of purchasing power across regions very difficult. It is probably safe to assume that, so long as per capita PI in Arizona is steady or increasing relative to the national average, real income is probably holding its own or rising, at least when compared to the rest of the U.S.

A quick look at the components of PI reveals which sectors of the Arizona economy have contributed the most to the rapid expansion last year. Earnings by place of work (non-farm income) grew by a healthy 13.8 percent in 1984, with the major contributors being construction, with a whopping 21.8 percent increase; proprietor's income, up by 18.7 percent; finance, insurance, and real estate, up by 18.5 percent; dividends, interest, and rent, up by 14.6 percent; wholesale trade, up by 16.6 percent; and manufacturing and services, each up by 15.2 percent. Among the slow gainers, government and transportation, communications, and public utilities (TCPU) rose by only 9.0 percent and 8.1 percent respectively, due to a combination of tight budgets, deregulation, and hiring freezes. Total transfer payments (welfare, food stamps, unemployment insurance, etc.) increased by only 4.8 percent, and unemployment insurance payments fell by over 50 percent last year. These events are evidence of the the impressive growth in employment opportunities in Arizona during most of 1984. The distribution of the gains indicates that the regional economy is becoming more diverse and sophisticated. Strong gains were posted in manufacturing, a relatively soft area nationally. This was mostly due to heavy hiring activity among defense contractors, a group of employers that pays relatively well. The construction totals testify to the rapid population growth (over three times the national average) and the bullish confidence among developers and investors in the Arizona economy. The increases in the financial, wholesale trade, and service sectors are symptomatic of the rapidly expanding commercial base in Arizona, especially in the metropolitan areas of the state.

Statistics for counties and metropolitan areas for 1984 will not be available until next year, but the figures for 1983, the first year of economic recovery, show some striking differences throughout the state.

There is little doubt that metropolitan residents enjoy higher incomes than their rural counterparts. In 1983, the Phoenix area averaged $11,779 in PI on a per capita basis, or about 101 percent of the national average that year; Pima County residents averaged $10,694, about 92 percent of the U.S. average. At the other end of the spectrum, the per capita PI of Apache County, most of which lies in the Navajo Nation, was just $5,740 in 1983, 49 percent of the national average and less than half of that of Maricopa County. In fact, of all the nonmetropolitan counties, only Yavapai County, home of increasing numbers of relatively affluent retirees, had a per capita PI that exceeded 80 percent of the national average ($9,868, or 84 percent).

The depth of the depression in mining and smelting and its effect on the mining communities is especially evident in Greenlee County, where per capita PI fell by over 23 percent from 1981 to 1982 and, at $8,184 in 1983, still was lower than in 1980 despite significant inflation in the intervening years. Gila County per capita PI in 1983 also was lower than it was two years earlier. The border counties of Cochise, Santa Cruz, and Yuma all experienced very low rates of growth in per capita PI due to a combination of factors, including a sluggish agricultural sector and a retail trade sector hampered by the struggling Mexican economy.

These diverging growth patterns can be summarized in this manner. The long-term growth rates of PI in the metropolitan and rural areas do not differ greatly. Metropolitan Arizona had an average annual increase of 11.8 percent from 1959-1983, while PI grew by an average of 10.7 percent in the nonmetropolitan counties. However, between 1980 and 1983, the metropolitan portion of PI grew by a total of 30.5 percent, while the rural counties posted a total increase of only 21.9 percent during the same three-year period. With the economic woes in mining continuing through the present, it is likely that the disparity in income growth illustrated by these numbers has continued to widen.

What can be concluded from the latest batch of PI statistics? Well, Arizona's economy has compiled an enviable record of economic growth in recent years. However, most of the new prosperity has been created in the urban areas, and only Maricopa County can claim a level of per capita PI which is at or above the U.S. average. We often speak of Arizona's metropolitan areas in combination, but a significant disparity of over $1000 per year exists between the Phoenix and Tucson areas. Some of the difference may be offset by a difference in living costs, a factor not easily determined. The data also show that, while urban economies continue to develop, rural areas are growing more slowly, and copper mining and smelting areas have suffered much more than employment and unemployment statistics may indicate.

What will the future bring? In early June, BEA released their long-term PI growth projections. PI in Arizona is expected to grow faster than in any other state through the year 2000, with an annual growth rate of 4.3 percent (compared to a national average of 2.6 percent). This may be conservative, especially compared to near-term forecasts. Marshall Vest, manager of the Forecasting Project at the University of Arizona, Division of Economic and Business Research, is one of several economists that forecast Arizona PI. Vest forecasts an increase in Arizona PI of about 10.2 percent in 1985, according to the April 1985 issue of Arizona's Economy. If his forecast is accurate, we can expect another strong year for the state's economy.

When all is taken into account, what do the PI figures mean? Two things: first, while PI is an imperfect measure of economic activity, it is one of the better measures we have of the economic well-being of individuals in various regions around the U.S. Second, estimates and projections of PI truly constrain the growth of one significant sector in Arizona: government. Currently, appropriations by the state government may not exceed 7.18 percent of projected PI for the fiscal year.

With PI projected to total about $41.3 billion in Arizona during the 1985-1986 fiscal year, budgeted appropriations stand about $200 million below the constitutional limit. If the future increases fall short of projections, the state may be forced to cut spending, employment, and future levels of service. Given the current pattern of growth, this is not likely this year or next, but a slower growth rate in future PI eventually may force some tough budget decisions to be made.

Brian Cary

TOTAL PERSONAL INCOME: 10 FASTEST GROWING STATES, 1983-1984

	Total PI, 1984 (Millions of Dollars)	Growth Rate, 1983-1984	Per Capita PI, 1984	Percent of National Average
United States	$3,000,827	9.7%	$12,707	100
Iowa	35,177	13.2	12,090	95
South Dakota	7,799	13.1	11,049	87
ARIZONA	35,504	12.5	11,629	92
Georgia	66,779	12.1	11,441	90
Indiana	64,872	12.0	11,799	93
Minnesota	55,014	11.5	13,219	104
Florida	137,774	11.3	12,553	99
North Carolina	66,322	11.2	10,758	85
South Carolina	33,248	11.1	10,075	79
Illinois	158,024	10.9	13,728	108

SOURCE: U.S. Department of Commerce, Bureau of Economic Analysis, May 1985.

ARIZONA PER CAPITA PERSONAL INCOME BY COUNTY: 1981-1983

	1981		1982		1983	
	Per Capita Personal Income	Percent of National Average	Per Capita Personal Income	Percent of National Average	Per Capita Personal Income	Percent of National Average
United States	$10,544	100	$11,113	100	$11,687	100
Arizona	9,819	93	10,050	90	10,653	91
Counties						
Apache	5,176	49	5,206	47	5,740	49
Cochise	7,577	72	7,817	70	8,356	71
Coconino	7,819	74	7,983	72	8,386	72
Gila	8,649	82	8,380	75	8,599	74
Graham	6,066	58	6,034	54	6,245	53
Greenlee	9,160	87	7,018	63	8,184	70
La Paz *	-	-	-	-	7,537	64
Maricopa	10,796	102	11,116	100	11,779	101
Mohave	8,389	80	8,219	74	8,575	73
Navajo	6,564	62	6,743	61	7,119	61
Pima	9,654	92	9,969	90	10,694	92
Pinal	8,090	77	7,558	68	7,455	64
Santa Cruz	7,779	74	7,775	70	7,769	66
Yavapai	9,293	88	9,384	84	9,868	84
Yuma *	8,087	77	8,175	74	8,532	73

* La Paz County was separated from Yuma County on January 1, 1985.

SOURCE: U.S. Department of Commerce, Bureau of Economic Analysis, May 1985.

"ASOICC" SERVES ARIZONA

Since August, 1977, a small federally-funded, interagency program has effectively served the residents of Arizona by coordinating and disseminating occupational and career information. Known as the Arizona State Occupational Information Coordinating Committee -- or "ASOICC," the program came into existence following amendments to the Vocational Education Act of 1976 and an interagency agreement between the Office of Economic Planning and Development (OEPAD), the Arizona Department of Education, and the Department of Economic Security. The legislation created a mandate to:

- Develop and implement a national, state, and local occupational information system to meet the common occupational information needs of vocational education and employment and training program administrators and planners, and
- Improve coordination between, and communication among, such administrators and planners, as well as employment security administrators, research personnel, and others.

By mid-1980 ASOICC staff began to develop and implement a comprehensive Occupational Information System (OIS) pursuant to an approved OIS Policy Paper and to conduct training workshops with user groups to create an awareness of existing information and resources. Additionally, the workshops were essential to reaching agreement on system specifications, data elements, and other ingredients of the OIS of Arizona. With assistance from the participating agencies, ASOICC also created the Arizona Career Information System (ACIS) in March, 1980, to meet the increasing demand for timely and accurate career information. During the following 30 months, the new career system expanded to 120 computer-terminal sites and 70 microfiche sites -- all of which provided a wealth of career information from six national files and from six Arizona files to residents throughout the state.

Effective April 1, 1984 the ASOICC program was consolidated with other units to form the new Research Administration of the Division of Employment and Rehabilitation Services, Department of Economic Security. This reorganization has proved to be an important and progressive step in the continuing effort to improve coordination between--and communication among--the various producers and users of occupational and career information.

By way of the "ASOICC Network," junior and senior high schools, community colleges, private and special schools, and prison and public libraries across the state have received basic occupational and career decision reference materials. This network now reaches out to such organizations as the Salvation Army's Harbor Light and Alcoholic Rehabilitation Centers, the Goodwill Industries, and various professional and technical associations.

ASOICC is not a large staff of individuals from any one agency. Rather, it is a composite of several organizations working in a coordinated and cooperative manner to achieve a common goal: "...providing the best information and resources to the citizens we serve." In fact, the staff of ASOICC currently consists of only three persons who coordinate the endeavors of many related agencies on specific projects.

For additional information concerning the ASOICC program, interested readers may contact Stan Butterworth, ASOICC director, at (602)255-3680. Written inquiries may be addressed to: ASOICC, Site Code 897J, P.O. Box 6123, Phoenix, Arizona 85005.

Stan Butterworth

* * *

EDUCATIONAL PLANNING AND THE MICRO OIS OF ARIZONA

The Occupational Information System of Arizona (OIS) project now has available a microcomputer-based data base for vocational planners and career counselors. The MICRO OIS of Arizona includes employment and job opening data for over 900 occupations. The system includes training data from secondary schools, community colleges, private schools, community-based organizations, and the Job Training Partnership Act (JTPA) by vocational training area. The MICRO OIS will include data on apprenticeship completors, Job Service job applicants and job orders, Unemployment Insurance applicants, and hourly-wage data from job orders. The Job Service data will cover over 4,000 Dictionary of Occupational Titles (DOT) code occupations. The data to be available are summarized below.

The MICRO OIS of Arizona permits retrieval of information using a direct access mode or a search mode. The direct access mode permits retrieval of data by entry of occupational title (e.g., electronic technician) or code (e.g., a DOT code). The search mode permits retrieval of data based on employment or training levels, growth rates, wage rate, and by other variables.

A key element of this system is the clustering of occupations with related training areas. A supply and demand report may be printed out for a given cluster which pulls together occupational demand information with training supply information. This information is organized in a way that maximizes its usefulness for planning and decision-making purposes. The MICRO OIS of Arizona is currently designed to run on an IBM Microcomputer utilizing dBase II software. The software has been customized to provide a powerful and easily used tool for vocational program planning purposes.

The MICRO OIS project was developed by the National Occupational Information Coordinating Committee. Development and implementation in Arizona has been funded primarily by Vocational Education in the Arizona Department of Education. Arizona development and implementation is being carried out through the Arizona State Occupational Information Coordinating Committee. For further information contact: Hugo H. Soll, Manager, OIS of Arizona, Site Code 897J, P.O. Box 6123, Phoenix, Arizona 85005, (602) 255-3680.

Hugo H. Soll

INFORMATION BY OCCUPATION OR VOCATIONAL TRAINING AREA AVAILABLE JUNE 30, 1985 IN THE MICRO OIS*

Type of Information	Statewide	County
1985 Estimated employment	Yes	Yes
1990 Projected employment	Yes	Yes
1985-90 Annual replacement demand	Yes	Yes
1985-90 Annual growth demand	Yes	Yes
1985-90 Annual job openings	Yes	Yes
1983-84 Public secondary enrollments/completors	Yes	Yes
1983-84 Community college enrollments/completors	Yes	Yes
1983-84 Proprietary enrollments/completors	Yes	Yes
1984 Job Training Partnership Act	No	No
1984 Job Service job openings	Yes	Yes
1984 Job Service openings/applicants ratio	Yes	Yes
1984 Job Service average wage	Yes	Yes
1984 Unemployment Insurance claimants	Yes	Yes
1984 Apprenticeship completors	Yes	Yes

*Employment and demand data are by occupations based on the Occupational Employment Statistics (OES) code. Education and training data are by vocational training area based on the Classification of Instructional Programs (CIP) code. Job Service, UI, and Apprenticeship data are by occupations based on the DOT code.

1985 POVERTY INCOME GUIDELINES

The Department of Health and Human Services issued new poverty income guidelines on March 8, 1985. The guidelines listed reflect changes in the Consumer Price Index. These poverty income guidelines are used as an eligibility criterion by a number of federal programs including the Job Training Partnership Act (JTPA). It should be noted that Lower Living Standard Income Levels (LLSIL) were also revised for fiscal year 1985 by the Employment and Training Administration (ETA), U. S. Department of Labor, and are provided for both "Metropolitan" and "Non-Metropolitan" areas.

The definitions used in determining "family size" and "income" are derived for the most part from language used by the U.S. Bureau of the Census "Current Population Reports." Prior to 1981, there was a distinction between poverty guidelines for farm families and nonfarm families. The poverty guidelines given below are applicable to both farm and nonfarm families.

By definition, a "family" is a group of two or more persons related by birth, marriage, or adoption who reside together; all such related persons are considered members of one family. If a household contains more than one family, the poverty guidelines are applied separately to each family, and not to the household as a whole.

A "family size of 1" is a person 15 years old or over (other than an inmate of an institution) who is not living with any relatives. Examples of unrelated individuals residing with others include a lodger, a foster child, a ward, or an employee.

"Income" refers to total annual cash receipts before taxes from all sources. These receipts include money wages and salaries before any deductions, but do not include food or rent in lieu of wages. They also include net receipts from nonfarm or farm self-employment such as receipts from a person's own business or farm after deductions for business or farm expenses.

Income also includes regular payments from social security, railroad retirement, unemployment compensation, strike benefits from union funds, veterans' benefits, public assistance including Supplemental Security Income, training stipends, alimony, child support, private pensions, regular insurance or annuity payments, income from dividends, interest, rents, royalties, periodic receipts from estates or trusts, and military family allotments or other regular support from an absent family member or someone not living in the household.

"Income" for eligibility purposes does not include capital gains, any assets drawn down as withdrawals from a bank, the sale of property, a house, a car, tax refunds, gifts, lump-sum inheritances, one-time insurance payments, or compensation for injury. Also excluded are non-cash benefits such as the employer-paid or union-paid portion of health insurance, food or rent received in lieu of wages, the value of food or fuel produced and consumed on farms, the imputed value of rent from owner-occupied nonfarm or farm housing, and such federal programs as Medicaid, food stamps, and public housing.

Jeff Bowman

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1
10
TEN
20
20

POVERTY INCOME GUIDELINES FOR ALL STATES
(except Alaska and Hawaii)

Family Size	Poverty Level	70% LLSIL*	
		Metropolitan	Non-Metropolitan
1	$ 5,250	$ 4,980	$ 4,980
2	$ 7,050	$ 7,070	$ 7,310
3	$ 8,850	$ 9,700	$10,040
4	$10,650	$11,970	$12,390
5	$12,450	$14,130	$14,620
6	$14,250	$16,520	$17,100
7	$16,050	$18,910	$19,580
8	$17,850	$21,300	$22,060
For Each Additional Person Add	$ 1,800	$ 2,390	$ 2,480

*Lower Living Standard Income Level

* * *

ARIZONA UNEMPLOYMENT INSURANCE - APRIL 1985

	APRIL 1985	MARCH 1985	APRIL 1984	% Change From 1 Year ago
Arizona Claimants Served*	25,374	28,698	28,149	- 9.9%
Arizona Average Weeks Unemployed**	8.9	8.7	8.5	+ 4.7%
Arizona Benefits Paid*	$ 7,611,795	$ 9,284,576	$ 8,087,757	- 5.9%
Arizona Trust Fund Balance	$266,088,244	$245,896,002	$183,522,541	+45.0%

*All Programs
**UI Only

Arizona Labor Force and Employment

May 1985 (in thousands)

	ARIZONA				
				-- Amt Change --	
	May.* 1985	Apr. 1985	May. 1984	Apr. to May.	1984 to 1985
TOTAL CIVILIAN LABOR FORCE	1457.4	1474.4	1428.0	-17.0	+29.4
Total Unemployment	86.8	84.2	68.0	+2.6	+18.8
Rate	6.0	5.7	4.8	---	---
Rate (Sea. Adj.)**	6.1	5.9	5.0	---	---
Total Employment	1370.6	1390.2	1360.0	-19.6	+10.6

THE ABOVE LABOR FORCE STATISTICS SHOUL

NONAGRICULTURAL WAGE AND SALARY EMPLOYMENT BY PLACE OF WORK

	May.* 1985	Apr. 1985	May. 1984	Apr. to May.	1984 to 1985
TOTAL WAGE AND SALARY	1263.3	1262.7	1180.1	+0.6	+83.2
Manufacturing	181.4	181.0	170.5	+0.4	+10.9
Durable Goods	143.9	143.6	134.2	+0.3	+9.7
Stone, Clay and Glass	8.0	7.9	7.3	+0.1	+0.7
Primary and Fabricated Metals	16.9	17.0	16.0	-0.1	+0.9
Primary Metals	7.2	7.2	6.8	+0.0	+0.4
Fabricated Metals	9.7	9.8	9.2	-0.1	+0.5
Machinery	71.4	71.8	67.3	-0.4	+4.1
Other Durable Goods	47.6	46.9	43.6	+0.7	+4.0
Aircraft and Missiles	21.3	21.2	19.5	+0.1	+1.8
Lumber and Wood Products (Except Furniture)	7.4	7.0	7.2	+0.4	+0.2
All Other Durable Goods	18.9	18.7	16.9	+0.2	+2.0
Nondurable Goods	37.5	37.4	36.3	+0.1	+1.2
Food and Kindred Products	7.9	7.9	7.7	+0.0	+0.2
Apparel	4.6	4.6	5.2	+0.0	-0.6
Printing and Publishing	14.4	14.3	13.4	+0.1	+1.0
All Other Nondurable Goods	10.6	10.6	10.0	+0.0	+0.6
Mining and Quarrying	12.2	12.2	13.6	+0.0	-1.4
Copper Mining	9.4	9.5	10.7	-0.1	-1.3
Other Mining and Quarrying	2.8	2.7	2.9	+0.1	-0.1
Construction	110.3	109.2	95.0	+1.1	+15.3
Trans., Communications, and Public Utilities	62.5	62.6	59.5	-0.1	+3.0
Transportation	28.9	28.8	27.1	+0.1	+1.8
Communications and Public Utilities	33.6	33.8	32.4	-0.2	+1.2
Trade	303.2	303.8	283.5	-0.6	+19.7
Wholesale Trade	62.9	62.9	57.9	+0.0	+5.0
Retail Trade	240.3	240.9	225.6	-0.6	+14.7
General Merchandise and Apparel	38.5	38.7	37.4	-0.2	+1.1
Food Stores	36.7	37.0	34.4	-0.3	+2.3
Automotive and Service Stations	28.8	28.8	26.9	+0.0	+1.9
Eating and Drinking Places	85.0	85.2	80.0	-0.2	+5.0
Other Retail Trade	51.3	51.2	46.9	+0.1	+4.4
Finance, Insurance, and Real Estate	75.9	75.4	71.5	+0.5	+4.4
Services and Miscellaneous	296.1	295.8	273.9	+0.3	+22.2
Hotels and Other Lodging Places	32.2	32.4	28.3	-0.2	+3.9
Business Services	66.4	66.1	60.0	+0.3	+6.4
Health Services	70.9	71.0	68.8	-0.1	+2.1
Other Services	126.6	126.3	116.8	+0.3	+9.8
Government	221.7	222.7	212.6	-1.0	+9.1
Federal	40.5	40.8	38.9	-0.3	+1.6
State and Local	181.2	181.9	173.7	-0.7	+7.5
School	109.9	110.8	106.6	-0.9	+3.3

* Preliminary

** Normal seasonal variations have been eliminated to reflect underlying economic trends.

NOTE--Prepared in cooperation with the U.S. Department of Labor, Bureau of Labor Statistics.

Arizona Labor Force and Employment

May 1985 (in thousands)

MARICOPA COUNTY May.* 1985	Apr. 1985	May. 1984	Amt Change Apr. to May.	Amt Change 1984 to 1985	PIMA COUNTY May.* 1985	Apr. 1985	May. 1984	Amt Change Apr. to May.	Amt Change 1984 to 1985
925.0	938.1	900.5	-13.1	+24.5	264.0	268.6	260.9	-4.6	+3.1
41.7	41.2	33.0	+0.5	+8.7	13.0	14.0	10.7	-1.0	+2.3
4.5	4.4	3.7	---	---	4.9	5.2	4.1	---	---
4.6	4.5	3.8	---	---	5.1	5.3	4.3	---	---
883.3	896.9	867.5	-13.6	+15.8	251.0	254.6	250.2	-3.6	+0.8

NOT BE USED FOR ECONOMIC ASSISTANCE PROGRAMS

NONAGRICULTURAL WAGE AND SALARY EMPLOYMENT BY PLACE OF WORK

MARICOPA COUNTY May.* 1985	Apr. 1985	May. 1984	Amt Change Apr. to May.	Amt Change 1984 to 1985	PIMA COUNTY May.* 1985	Apr. 1985	May. 1984	Amt Change Apr. to May.	Amt Change 1984 to 1985
828.7	829.3	766.7	-0.6	+62.0	229.2	229.3	215.2	-0.1	+14.0
131.9	131.8	123.7	+0.1	+8.2	31.0	30.8	28.6	+0.2	+2.4
105.8	105.8	98.4	+0.0	+7.4	26.0	25.9	23.7	+0.1	+2.3
4.8	4.7	4.3	+0.1	+0.5					
11.3	11.3	10.0	+0.0	+1.3					
57.4	57.8	54.4	-0.4	+3.0					
32.3	32.0	29.7	+0.3	+2.6					
26.1	26.0	25.3	+0.1	+0.8	5.0	4.9	4.9	+0.1	+0.1
5.1	5.1	5.3	+0.0	-0.2					
2.8	2.8	3.1	+0.0	-0.3					
10.6	10.6	9.8	+0.0	+0.8					
7.6	7.5	7.1	+0.1	+0.5					
0.6	0.6	0.6	+0.0	+0.0	2.5	2.5	3.7	+0.0	-1.2
77.0	76.7	65.7	+0.3	+11.3	20.7	20.3	17.6	+0.4	+3.1
41.2	41.0	38.4	+0.2	+2.8	8.9	8.9	8.9	+0.0	+0.0
19.7	19.6	18.1	+0.1	+1.6	4.1	4.1	4.1	+0.0	+0.0
21.5	21.4	20.3	+0.1	+1.2	4.8	4.8	4.8	+0.0	+0.0
205.9	206.9	192.2	-1.0	+13.7	50.1	50.1	47.1	+0.0	+3.0
49.8	49.6	46.2	+0.2	+3.6	7.4	7.4	6.5	+0.0	+0.9
156.1	157.3	146.0	-1.2	+10.1	42.7	42.7	40.6	+0.0	+2.1
24.0	24.3	23.6	-0.3	+0.4	7.5	7.5	7.3	+0.0	+0.2
23.3	23.6	22.0	-0.3	+1.3	5.8	5.8	5.5	+0.0	+0.3
18.4	18.5	17.0	-0.1	+1.4	4.5	4.5	4.3	+0.0	+0.2
54.8	55.3	51.1	-0.5	+3.7	15.9	16.0	15.2	-0.1	+0.7
35.6	35.6	32.3	+0.0	+3.3	9.0	8.9	8.3	+0.1	+0.7
59.3	58.8	55.7	+0.5	+3.6	10.6	10.6	10.1	+0.0	+0.5
201.3	202.0	184.7	-0.7	+16.6	54.7	54.6	50.4	+0.1	+4.3
19.4	20.1	16.6	-0.7	+2.8	4.7	5.0	4.3	-0.3	+0.4
54.0	53.8	49.7	+0.2	+4.3	9.7	9.6	8.1	+0.1	+1.6
47.8	48.2	46.5	-0.4	+1.3	14.6	14.3	14.0	+0.3	+0.6
80.1	79.9	71.9	+0.2	+8.2	25.7	25.7	24.0	+0.0	+1.7
111.5	111.5	105.7	+0.0	+5.8	50.7	51.5	48.8	-0.8	+1.9

-- Prepared by Labor Market Information, Research and Analysis (CPS, 1/85)

NONMETROPOLITAN COUNTIES
LABOR FORCE AND EMPLOYMENT
MAY 1985

	Apache	Cochise	Coconino	Gila	Graham	Green-lee	La Paz
TOTAL CIVILIAN LABOR FORCE*.	15,875	28,375	36,775	12,475	7,725	2,950	4,750
Total Unemployment	2,450	2,300	3,050	1,375	850	425	650
Rate	15.4%	8.1%	8.3%	11.0%	11.0%	14.4%	13.7%
Rate (Seas. Adj.)**. . . .	17.6%	8.3%	8.9%	11.4%	11.1%	15.4%	-INA-
Total Employment	13,425	26,075	33,725	11,100	6,875	2,525	4,100

THE ABOVE LABOR FORCE STATISTICS SHOULD NOT BE USED
FOR ECONOMIC ASSISTANCE PROGRAMS

	Apache	Cochise	Coconino	Gila	Graham	Green-lee	La Paz
TOTAL WAGE AND SALARY. . . .	15,175	22,900	34,350	9,775	4,750	2,550	2,600
Manufacturing.	650	1,875	2,525	1,275	150	75	75
Mining and Quarrying	25	175	50	1,600	50	1,425	0
Construction	1,050	1,325	1,675	425	150	75	175
Trans., Comm., & Pub. Util..	1,825	1,425	2,375	300	150	50	50
Trade.	1,350	4,900	8,000	1,900	1,350	300	850
Fin., Insur., & Real Estate.	275	650	750	225	150	25	75
Services and Miscellaneous .	4,525	3,025	8,475	1,775	775	100	600
Government	5,475	9,525	10,500	2,275	1,975	500	775

	Mohave	Navajo	Pinal	Santa Cruz	Yavapai	Yuma
TOTAL CIVILIAN LABOR FORCE*.	24,400	24,825	31,500	8,650	32,625	37,650
Total Unemployment	2,650	2,600	4,025	1,275	1,875	8,525
Rate	10.9%	10.5%	12.8%	14.7%	5.7%	22.6%
Rate (Seas. Adj.)**. . . .	11.2%	11.5%	13.0%	16.8%	5.8%	-INA-
Total Employment	21,750	22,225	27,475	7,375	30,750	29,125

THE ABOVE LABOR FORCE STATISTICS SHOULD NOT BE USED
FOR ECONOMIC ASSISTANCE PROGRAMS

	Mohave	Navajo	Pinal	Santa Cruz	Yavapai	Yuma
TOTAL WAGE AND SALARY. . . .	18,025	18,850	25,350	8,025	20,000	22,875
Manufacturing.	2,275	1,800	3,175	775	2,200	1,550
Mining and Quarrying	275	1,100	3,675	0	625	50
Construction	1,500	1,000	1,050	300	1,900	2,000
Trans., Comm., & Pub. Util..	1,100	1,575	1,175	575	875	900
Trade.	5,125	3,425	4,525	3,425	5,225	6,975
Fin., Insur., & Real Estate.	875	350	675	250	825	825
Services and Miscellaneous .	3,625	4,975	2,875	1,225	3,900	4,150
Government	3,250	4,625	8,200	1,475	4,450	6,425

*Adjusted to the Current Population Survey (CPS) to reflect place of residence.
**Seasonal adjustment not applicable for economic assistance programs.

NOTE--Series for Yuma and La Paz counties start January 1983. Data are not comparable to any past series.

Prepared in conjunction with the U.S. Department of Labor, Bureau of Labor Statistics

ARIZONA LABOR FORCE AND EMPLOYMENT FOR ECONOMIC ASSISTANCE PROGRAMS
MAY 1985

County	Civilian Labor Force	Employment	Unemployment	Rate
Statewide	1,457,394	1,370,634	86,760	6.0%
Apache	15,877	13,424	2,453	15.5
Cochise	28,388	26,076	2,312	8.1
Coconino	36,767	33,728	3,039	8.3
Gila	12,474	11,109	1,365	10.9
Graham	7,733	6,892	841	10.9
Greenlee	2,948	2,513	435	14.8
La Paz	4,743	4,097	646	13.6
Maricopa	924,908	883,190	41,718	4.5
Mohave	24,406	21,750	2,656	10.9
Navajo	24,827	22,237	2,590	10.4
Pima	263,007	250,067	13,040	4.9
Pinal	31,494	27,479	4,015	12.7
Santa Cruz	8,643	7,377	1,266	14.6
Yavapai	32,633	30,762	1,871	5.7
Yuma	37,646	29,133	8,513	22.6

These figures are the only official BLS labor statistics to be used for revenue sharing purposes. They are not designed to be used as economic indicators. Note: Series for Yuma and La Paz counties start January 1983. Data are not comparable to any past series.

ESTIMATED HOURS AND EARNINGS OF PRODUCTION WORKERS IN SELECTED INDUSTRIES IN ARIZONA
MAY 1985

INDUSTRY	AVERAGE WEEKLY EARNINGS			AVERAGE WEEKLY HOURS			AVG. HOURLY EARNINGS		
	MAY * 1985	APR. 1985	MAY 1984	MAY * 1985	APR. 1985	MAY 1984	MAY * 1985	APR. 1985	MAY 1984
FOR THE STATE OF ARIZONA*									
Manufacturing	385.36	382.30	358.67	40.1	40.2	40.3	9.61	9.51	8.90
Aircraft & Missiles	INA	INA	INA	INA	INA	INA	INA	INA	INA
Food & Kindred Products	332.93	327.64	313.10	40.7	40.7	40.4	8.18	8.05	7.75
Primary Metals	488.22	502.65	480.64	39.5	39.3	39.3	12.36	12.79	12.23
Machinery	349.52	340.42	330.89	39.9	39.4	40.6	8.76	8.64	8.15
Copper Mining	560.14	586.87	550.09	41.4	42.9	41.8	13.53	13.68	13.16
Construction	423.36	429.79	424.05	36.0	36.3	37.1	11.76	11.84	11.43
Utilities	582.06	573.30	525.95	43.6	44.1	42.9	13.35	13.00	12.26
Retail Trade**	236.65	236.31	245.73	34.1	34.7	33.8	6.94	6.81	7.27
Wholesale Trade	349.13	363.82	351.50	37.3	38.5	38.5	9.36	9.45	9.13

* Preliminary

** Excludes eating and drinking places.

NOTE--These estimates are based on a sample of full and part-time production and related employees whose payroll and hours are reported for the pay period which includes the 12th of the month. Prepared in cooperation with the U.S. Department of Labor,Bureau of Labor Statistics.

--Prepared by Labor Market Information, Research and Analysis (1972 SIC, 1/84)

THE ARIZONA LABOR FORCE IN MAY

Arizona continued to experience rising unemployment in May, providing more evidence of a slowdown in the rate of economic growth. The 6.1 percent unemployment rate recorded last month is the highest since January 1984 when the rate stood at 6.2 percent. Although some sectors of the economy have continued to perform well, unemployment is likely to climb higher this summer before the trend is reversed.

Wage and salary employment increased by about 600 last month, but several key categories showed much less strength than in 1984. Manufacturing employment rose by 400, a modest improvement when compared to the gain of 1,600 observed during May 1984. A disparity in hiring patterns among Arizona's manufacturers has developed in recent months. Aircraft and aerospace manufacturers with defense contracts have expanded their staffs very rapidly, while producers of semiconductors and electronic components for the private sector are cutting production schedules or laying off workers. Machinery manufacturers, including many large high-technology firms, reduced employment by 400 in May, but strong hiring activity by other durable goods producers resulted in a net gain for manufacturing. The outlook suggests more of the same: the semiconductor industry reported a fall in the book-to-bill ratio from 0.77 to 0.72 last month, meaning that the value of new orders was only 72 percent of the value of products shipped last month. Until inventories are reduced and market demand improves, many high-technology manufacturing companies may continue to struggle and will be forced to cut production even more in the months ahead.

The metropolitan counties experienced seasonal losses of jobs in the service and trade industries. Employment in retail trade fell by 1,200 in the Phoenix area, including a reduction of 500 jobs in eating and drinking establishments. Lower employment levels in retail trade are a natural result of the end of the winter tourism season and are expected at this time each year. In 1983 and 1984, however, the economic expansion provided enough momentum to keep retail trade growing through May before the summer doldrums arrived. In Pima County, employment in retail establishments dropped off slightly, a strong performance when seasonal factors are taken into account.

The service industries also showed expected seasonal patterns in May, with hotels and lodging establishments reducing employment in the desert counties at the same time that hiring activity was accelerating in northern Arizona. Maricopa County lost over 700 hotel jobs, while the Tucson area lost about 200. The development of new hotels and resorts will result in hundreds of new jobs for Pima County workers during the next two years. Meanwhile, the high levels of tourism observed in the Grand Canyon area during May may indicate that a strong summer tourist season is in store for the northern counties this year, with brisk hiring in trade and services to follow.

The most remarkable sector of the Arizona economy this year has been construction. Employment in construction has increased in nine of the last ten months. The gains of the last few months are especially impressive in comparison with the slower growth of manufacturing. Falling interest rates have helped to sustain growth in construction, particularly in the home building sector. Without a strong surge in demand for office space, however, the overbuilt commercial real estate market in the state may force some planned developments to be postponed or cancelled, with layoffs of construction workers to follow as existing projects are completed.

At this stage, the regional economy is generally healthy, but the momentum that was generated by the explosive growth of 1984 has diminished. Manufacturing firms in Arizona and around the U.S. are suffering from soft product demand, a strong dollar, and formidable international competition, the same factors that are crippling the domestic copper industry. Slower job growth, combined with an increased probability of layoffs in manufacturing and construction, is likely to push the unemployment rate upward this summer, but Arizona should continue to create jobs faster than the national average.

Brian Cary

THE LARGEST PRIVATELY OWNED FIRMS IN ARIZONA BY 1983 REVENUES

The following are the 100 largest privately owned firms in Arizona listed by the international accounting firm, Arthur Andersen and Company. By the use of surveys and Dun & Bradstreet Corporation records, the list ranks these companies in terms of annual revenues including firms with revenues ranging from more than $100 million to less than $25 million. The study found that these 100 Arizona firms pump as much as $5 billion into the state's economy and employ 30,777 workers or as much as 2.4 percent of the employed labor force in the state.

Clara Dunn

$100 Million or More

Company	City	Industry	Employees
Giant Industries, Inc.	Phoenix	Trade, Mining	460
Shamrock Foods Company	Phoenix	Manufacturing, Trade	925
Bar-S Foods Company	Phoenix	Manufacturing, Trade	672
Sundt Corporation	Tucson	Construction	2,200
United Dairymen of Arizona	Tempe	Trade	200
Kitchell Corporation	Phoenix	Construction	575
Kaibab Industries	Phoenix	Manufacturing, Transportation, Trade, Real Estate	1,200
Tanner Southwest	Phoenix	Construction	1,420
Gosnell Development Co.	Phoenix	Construction, Real Estate	2,650

$100 Million to $75 Million

Bud Melcher and Associates	Phoenix	Real Estate	232
Forever Living Products Inc.	Tempe	Manufacturing, Trade	501
P.F. West Inc.	Tucson	Construction, Real Estate	375
Frank Aries Ent. LTD	Tucson	Real Estate	12
Empire Southwest Co.	Phoenix	Trade, Transportation, Real Estate	750
Arizona Mail Order Co.	Tucson	Trade	490

$75 Million to $50 Million

Co-Sales	Phoenix	Trade	44
Hensley & Company	Glendale	Trade	175
Notre Dame Development Corp.	Phoenix	Real Estate	60
SGS Semiconductor Corp.	Phoenix	Manufacturing	192
Conventry Homes, Inc.	Phoenix	Construction, Real Estate	192
Empire West Co.	Tucson	Construction, Real Estate	200

$50 Million to $25 Million

Company	City	Industry	Employees
Arizona Wholesale Supply Co.	Phoenix	Trade	180
J.R. Porter Construction Inc.	Phoenix	Construction	150
Feeders Grain	Phoenix	Trade	47
Amex LTD	Phoenix	Trade	18
Bardell Horn Inc.	Phoenix	Trade	34
American Fence Corp.	Phoenix	Construction, Trade	725
Frost Construction Co.	Tempe	Construction	40
Blood Systems Inc.	Scottsdale	Services	883
Knoell Brothers Construction Inc.	Phoenix	Construction	80
Roofing Construction Co. Inc.	Phoenix	Trade	185
RR & RR Evans Co.	Phoenix	Trade	70
J.R. Norton Co.	Phoenix	Agriculture	2,600
Best Western International Incorporated/Best Western Way	Phoenix	Services	550
Sigler & Faigen	Phoenix	Trade	120
Golden Eagle Distribution Inc.	Tucson	Trade	165
Environmental Air Prod/ Krueger Manufacturing	Tucson	Trade	1,545
United Liquor Co.	Phoenix	Trade	140
National Bands Inc.	Phoenix	Trade	150
Cienga LTD	Tucson	Real Estate	76
Emerald Homes Inc.	Phoenix	Construction	85
L.G. Lefler Inc.	Tucson	Construction	200
Arizona Agricorp Inc.	Tucson	Trade	195
Lawrence Hickey & Son Inc.	Tucson	Construction	125
Ugly Duckling Rent-A-Car System Inc.	Tucson	Services	25
Red River Resources Inc.	Phoenix	Finance	60
Smith Pipe and Steel Co.	Phoenix	Services	200
Ed Hodlerness Supplies Inc.	Tucson	Trade	95
Sun Lakes Marketing	Chandler	Real Estate	230
Walled Lake Door Co.	Phoenix	Manufacturing	400
Chanen Construction Co.	Phoenix	Construction	150
Maupin Cos. Inc.	Phoenix	Construction	30
Lumber Country Inc.	Tucson	Trade	160
Mueller Group	Tempe	Construction	22
Osten Meat Co. Inc.	Phoenix	Trade	20
Fletcher Enterprises	Phoenix	Services, Trade	200
Cummins Southwest Inc.	Phoenix	Trade	275
Snobird Inc.	Kingman	Trade	35
Joe E. Woods Inc.	Mesa	Construction	130
Air Couriers Int'l.	Phoenix	Transportation	550
STI Inc.	Glendale	Transportation	500
Phoenix Fuel Co.	Phoenix	Trade	33
Consortium For Int'l. Development	Tucson	Services	15
Riley Whittle Inc.	Phoenix	Transportation	500
B.S. & W Energy Corp.	Phoenix	Manufacturing	115
K-J Distributors Inc.	Phoenix	Trade	75
Scurr-Messenger Lundquist and Associates	Phoenix	Real Estate	100
Laidlaw Associates	Scottsdale	Manufacturing	350
Specialty Forest Products Inc.	Chandler	Trade	26

Under $25 Million

Company	City	Industry	Employees
Allied Concrete & Materials Co.	Mesa	Manufacturing, Trade	275
Arizona Television Co.	Phoenix	Communication	175
Mundus Travel	Phoenix	Services	130
Western States Petroleum Inc.	Phoenix	Manufacturing	80
Road Machinery Co.	Phoenix	Trade	213
Central Arizona Disributing Co.	Glendale	Trade	128
Wood J.A. Co-Vista Inc.	Phoenix	Agriculture	250
Shepherd Oil Inc.	Morristown	Manufacturing	105
Charles Roberts Air Conditioning	Phoenix	Trade, Services	260
Best Way Transportation	Phoenix	Transportation	530
Flori Corp.	Phoenix	Trade	90
CTI Corp.	Rillito	Transportation	350
Artcraft Construction Co. Inc.	Phoenix	Construction	125
B & D Supply Co. of Arizona	Phoenix	Trade	140
Taylor Brothers Wholesale Distributors	Mesa	Trade	49
Cardon Homes Corp.	Mesa	Construction, Real Estate	50
Vinyltech Corp.	Phoenix	Manufacturing	50
Swift Transportation Co.	Phoenix	Transportation	175
Precision Components	Phoenix	Construction	350
Westfield Associates Inc.	Phoenix	Construction	30
Systems Marketing Inc.	Phoenix	Services	21
Schuff Steel Co.	Phoenix	Construction	90
Universal Roofers Inc.	Phoenix	Construction	416
City Meats and Provisions Co., Inc.	Tucson	Trade	60
Dix Construction Co. Inc.	Scottsdale	Construction	135
Kealy Construction Co.	Phoenix	Construction	50
Navco Construction Co.	Lakeside	Construction	35
Project Development Corp.	Phoenix	Real Estate	5
Tempe Meat Packing Co.	Tempe	Trade	31
Redburn Tire Co.	Phoenix	Trade, Services	105
National Car Rental	Phoenix	Services	182

SOURCE: Arizona Republic, February 3, 1985.

NEW DEVELOPMENTS

"New Developments" is featured each month as a service to employers and job seekers. It is a compilation of public announcements of the more significant new construction, grand openings, major hirings and layoffs, and other employer events that have special significance for Arizona labor markets. The announcements are paraphrased and otherwise edited from articles published in newspapers and other periodicals from throughout the state. "New Developments" are limited to space available, and no attempt is made to compile an exhaustive list of all such events that have occurred during the month.

CONSTRUCTION: The International Microelectronics Innovation Center (IMIC) was recently announced as one of the first future tenants of the Arizona State University Research Park. The $50 million, 244,000 square-foot project is designed to provide emerging microelectronics-related companies with leasable clean-room space to conduct research and development and will be "of extreme economic importance to any city or state hoping to become a center for high technology growth," said ASU Engineering Dean, C. Roland Haden. "Part of our goal will be to attract semiconductor facilities to the area. Having larger firms as tenants will help us do that," Haden said. The IMIC Group will break ground this fall on the first phase of the project which will consist of four to six 5,200 square-foot clean-room modules as well as common space for computer-aided design and other costly equipment used in microelectronics design. "For start-ups, these are expensive items that often sit idle," said Haden. He compares the importance of the International Microelectronics Innovation Center to the joint effort of about 20 major technology companies at the Microelectronics and Computer Technology Corporation project in Austin, Texas. Haden said, "We think this Tempe facility will be better than the MCC project. MCC benefits the companies that already exist and are supporting that research. It's not bringing Austin any new companies." In contrast, he said, "The (IMIC) center will serve as a spawning ground and could conceivably produce 10 new semiconductor companies."

More than $8 million in financing has been arranged for the renovation of two Phoenix Union High School (PUHS) buildings that will be converted to office space. BA Mortgage of Arizona has provided $8,250,000 to developers James and Fredric Kaufman for the renovation of a 142,000 square-foot, four-story building and an adjacent 19,000 square-foot structure. The buildings are situated on 2.3 acres at Fifth Street and Taylor. The project represents the first phase of a planned redevelopment of the historic PUHS campus, according to Gibson Gorman, president of BA Mortgage. "The project is part of BA Mortgage's ongoing commitment to downtown redevelopment," Gorman said. "We have committed more than $32 million to date for downtown development." Walter Jorgensen, senior loan officer, who arranged the PUHS financing, said there is a need downtown for office space comparable to the Phoenix Union space. He said comparable office buildings in the downtown area are more than 90 percent leased. James Kaufman said the city of Phoenix has leased the entire project. He said the city prosecutor, Municipal Court, and the Water and Wastewater Department are scheduled to be relocated to the renovated space. The Kaufman Co. has begun the renovation. Completion is scheduled for October. The project is immediately east of a planned "superblock" consisting of proposed office, retail, hotel, and cultural facilities. The six-block project, bounded by Van Buren, Fillmore, Third, and Fifth streets, could include a major shopping center with an office complex surrounding a central greenbelt garden area.

Prescott has been chosen as the site for a new convention center by James Mack of J. Mack & Company, a Tempe firm. The land adjacent to the golf course on Antelope Hills is the specific site, chosen in part because of its proximity to Prescott's airport. The center will eventually consist of 7,500 square feet of meeting room facilities and a five-story hotel with 250 rooms. J. Mack and Company committed to starting the project within 18 months and, as earnest money, has agreed to deposit $25,000 with the city.

Another project has been announced for Prescott. South West Fishing Industries, a new Phoenix-based company, plans to build a fish farm about 25 miles north of Prescott on 240 acres east of Chino Valley. The company projects a fish-year production of 600 tons of fish from 60 tanks, with subsequent expansions based on revenues from the operation. The farm will eventually produce 4,200 tons of trout per year and employ 60 people.

EDUCATION - Arizona could confront a teacher shortage this coming fall according to statements released by Arizona State University's Career Services office regarding their report "Teacher Supply and Demand in Arizona: Fall 1985." Ray Castillo, assistant director of Career Services points out that "this year (fall 1984 and spring 1985) a total of 1,443 student teachers had assignments in Arizona schools. However, there are 2,730 projected fall openings. So, the shortfall is 1,287." He points out the decline in teachers graduating from the state's four-year universities and colleges as a main cause of the shortage. During the 1983-1984 academic year Arizona graduated 1,005 teachers, less than half of the 2,187 teachers graduated in the 1974-1975 academic year. ASU, which produced 1,086 teachers nine years ago, showed the greatest decline--547. The University of Arizona was down 273, NAU was off 234, and Grand Canyon College decreased by 28. If the state relied solely on an in-state supply of new teachers, it would experience a severe teacher shortage this fall. Fortunately, one-half of Arizona's teachers come from out-of-state.

LAYOFFS - Motorola announced layoffs of 200 employees in May "despite a series of measures implemented by the company to keep workers employed," said Ken Phillips, a Motorola spokesman. A stagnant market for semiconductor products was blamed, bringing with it a 47 percent decline in Motorola's first-quarter projects compared with the same quarter in 1984. Motorola is the second largest semiconductor manufacturer in the world behind Texas Instruments. Its Semiconductor Products Sector employs about 14,000 people in the valley and 43,000 worldwide.

St. Luke's Medical Center announced a personnel cutback equivalent to laying off 156 people at the end of May due to a reduction in patient load and income. Officials point out, though, that actual jobs lost would only total about 50 since the bulk of the cutback will come from attrition and a reduction in the number of hours worked by hourly employees. Phil Riske, the hospital's public information officer, said the cuts will be across the board and are very necessary since the hospital's number of patients has averaged only 53 percent of capacity since July 1984.

About 65 jobs at Phelps Dodge Corporation operations in Bisbee are to be eliminated within six months because the company is ceasing its limited gold and silver mining there. The mining company has 91 employees in Bisbee who make from $9.35 to $14.22 per hour. Phelps Dodge expects to gradually reduce the work force to about 25 people. Jack Ladd, director of employee relations, says that more than a third of the workers qualify for early retirement. Others are to be offered transfers to other Phelps Dodge operations if jobs are available.

MERGERS - Western Savings and Loan Association has acquired the business of First Trust of Arizona, a subsidiary of First Bank Systems, Minneapolis. First Trust's offices are located in Phoenix, Sun City, and Carefree holding an $18.5 million portfolio of individual and personal trusts.

Ceramic Cooling Tower Company has acquired 100 percent of the outstanding capital stock of Tempe based RLI Inc., manufacturers of Tradewinds evaporating air coolers. "This will give the company a stronger financial base," said Ted Lanier, RLI president.

MORE OFFICE COST INFORMATION - Phoenix is among the five least expensive cities in cost per employee for opening a new office, according to a study by Howard Ecker & Company Real Estate, Chicago. The cost per employee is equivalent to non-rental costs plus one year's rent for 200 square feet of office space.

COST PER EMPLOYEE FOR OPENING NEW OFFICE

New York	$24,042	Houston	$15,216
Washington	21,288	PHOENIX	15,093
San Francisco	20,312	Atlanta	15,036
Boston	20,285	St. Louis	14,267
Los Angeles	19,859	Kansas City	14,136

Office rents are 25 percent of the cost of opening a new office. Other costs include furniture and fixtures, office and electronic equipment, interior improvements, decorating, carpeting, design services, and moving expenses. (See April 1985 NEWSLETTER for related article.)

TOURISM - Arizona's share of the national tourism market declined consistently over the past four years to 1.49 percent in 1985 down from 1.6 percent in 1979. In light of this, Director of the Arizona Office of Tourism, J. Phillip Keene III, has asked the state legislature to double its budget to approximately $4 million. Keene says Arizona is "missing the boat" by not doing more tourism promotion and that "we can't take it for granted that people will keep coming here on their own." Keene sees public dollars spent on tourism as "an investment, not an expenditure," as he points out the strong growth in tourism in the late seventies that occurred with only minimal expenditures from the state budget. Currently, Arizona ranks 34th in national expenditures on promotion of tourism.

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ARIZONA LABOR MARKET INFORMATION NEWSLETTER

Vol. IX No. 8
August 1985

Unemployment Rate

Seasonally Adjusted
June*

ARIZONA	6.6%
Maricopa Co.	4.9%
Pima Co.	5.2%
UNITED STATES	7.3%

Consumer Price Index

National-May
1967 - Base Year

Wage Earner/Clerical Worker -	317.8
% Chg. Yr. Ago	4.1
All Urban -	321.3
% Chg. Yr. Ago	3.7

Phoenix-2nd Qtr. 1985
1977 - Base Year

All Urban -	190.8
% Chg. Yr. Ago	6.0

Producer Price Index

National-June*
1967 - Base Year

All Commodities	309.5
% Chg. Yr. Ago	-0.6
Finished Goods	294.0
% Chg. Yr. Ago	1.1

* Preliminary

ARIZONA EMPLOYMENT
Peaks & Troughs: 1979-1984

The Arizona economy gained 246,000 jobs between August 1982 and December 1984. Some of these jobs were simply recovered from the previous recession, but 184,700 jobs can be considered new. Where did these new jobs come from? Most of them came from business services; retail trade; finance, insurance, and real estate (FIRE); and construction.

The Arizona economy realized an employment increase of 24.7 percent from August 1982 to December 1984, resulting in an increase of total nonagricultural wage and salary employment of 246,000. Although job losses were nearly 61,300 in the last recession, the net employment gain from the previous business cycle peak in December 1981 to December 1984 was 184,700. These new jobs came from different sectors and were unevenly distributed among different industries of the economy.

This article will describe the changes in nonagricultural wage and salary employment during the peaks and troughs that occurred in Arizona between 1979 and 1984. This time period included two peaks and one trough. The emphasis will be on the Arizona industries which had the largest gains or declines in both numerical and percentage terms. Comparisons with peak to trough, trough to peak, and peak to peak employment will be made on an industry division and/or subindustry level.

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Nancy Augustin, editor

The employment data used in this article were the monthly estimates of nonagricultural wage and salary employment provided by the Current Employment Statistics (CES) Survey and the Establishment Survey (ES-202), which are administered by the Research Administration of the Arizona Department of Economic Security, in cooperation with U.S. Bureau of Labor Statistics (BLS). Employment data for the U.S. during that period were also examined, and the peaks and troughs of major industry divisions or subdivisions were also noted for broad comparison purposes.

This section will analyze the declines and gains in industry employment in Arizona and the U.S. in rather broad terms between 1979 and 1984. Table 1 and Table 2 show the Arizona and the U.S. periods of peaks and troughs by month and percentage changes in nonagricultural employment in those periods. These two tables reveal that there were a number of similarities and differences in the timing of employment peaks and troughs, as well as in the depths of the declines and gains in the various industries in the U.S. and Arizona between 1979 and 1984. In general, Arizona had the greater number of peak employment levels in 1981, except in construction and trade. The U.S. had exhibited earlier peaks in total employment; manufacturing; and transportation, communication, and public utilities (TCPU); while Arizona had earlier peaks in construction and trade. The trough dates seem to coincide rather closely. Arizona had a larger percentage decline in employment between peaks and troughs, except for manufacturing. A huge percentage drop in mining and construction and moderately larger decreases in trade were responsible for the sharper decline in total nonagricultural wage and salary employment in Arizona as compared to the U.S. The steepest drops in industry employment in Arizona were in mining (44.7 percent), construction (30.7 percent), and TCPU (8.4 percent). In the U.S., the steepest declines were in durable manufacturing (18.9 percent), construction (17.3 percent), and nondurable manufacturing (8.5 percent).

On the other hand, Arizona accomplished larger percentage gains in employment in all major industries, except in mining, during the recovery period as compared to the U.S. A huge percentage increase in the construction and services industries and moderately larger percentage increases in other industry sectors were the driving force for sharper increases in total wage and salary employment in Arizona (24.7 percent) compared to the U.S. (8.9 percent). The sharpest increases in industry employment in Arizona were in construction (65.0 percent), services (31.7 percent), and retail trade (24.7 percent). The largest increases in U.S. employment came from construction (21.5 percent), durable manufacturing (12.9 percent), and retail trade (11.6 percent). The larger percentage gain in Arizona employment compared to U.S. employment could be the indication of an underlying long-term strength of the Arizona economy. However, the larger percentage gain may be the result of a deeper downturn in Arizona than in the U.S. in 1982.

The construction industry in Arizona is the first in line to expand or contract when the economy turns up or down. The considerably larger percentage gain in construction employment in Arizona compared to the U.S. was primarily the result of a sharper increase in residential building construction. Even though the construction industry is characterized by its seasonality and its project orientation, it has some underlying strength primarily due to high population migration from other states of the country. This underlying strength is shown by the percentage increase in peak-to-peak employment of 12.5 percent.

The service industry in the U.S. grew, but at a slower rate than the Arizona service industry. Arizona employment growth in the service industry was most rapid between 1979 and 1984. The peak-to-peak percentage increase in the service industry (31.3 percent) is much higher than the percentage increase in total wage and salary employment (17.4 percent) for the state. Despite the deep recession in 1982, employment in the service industry did not drop significantly; instead, many industry groups or subdivisions within the service industry continued to grow during both recession and recovery. Within the service industry in Arizona, major employment increases were attributed to personnel services and computer data processing services. Hotels, rooming houses, camps, and other lodging places also contributed to a higher percentage increase in employment in the service industry.

The Arizona retail trade industry experienced a growth pattern similar to the U.S. Among all the major industries, eating and drinking places was the single largest one that contributed the highest number of jobs in Arizona. It provided 18,919 jobs between the last trough and December 1984. Other major retail trade businesses that created jobs in Arizona were the department stores, building materials, and hardware stores. The employment growth in both retail and wholesale trade was primarily because of the growing population here in Arizona.

Manufacturing employment increased in Arizona somewhat more rapidly than the U.S., because of a difference in composition in manufacturing. However, the peak-to-peak percentage increase in the manufacturing industry (9.6 percent) was less than the percentage increase in total wage and salary employment (17.4 percent) for the state. Among the durable manufacturing industry, stone, clay, glass, and concrete products; furniture and fixtures, along with lumber and wood products, experienced larger employment gains than others. The higher percentage increase in these types of durable manufacturing were primarily because of the growth in building construction. Paper and allied products and miscellaneous plastic products were the major nondurable manufacturing industries that created jobs in Arizona.

Employment in FIRE in Arizona increased (20.5 percent), a higher rate than in the U.S. (5.1 percent). Credit agencies and security brokers showed the sharpest percentage increase in employment in this sector. The finance and insurance sector grew more rapidly because of population growth, office and commercial construction, and ininterstate banks. FIRE, like the service industry, did not drop significantly during the recession and grew at a similar pace with total nonagricultural wage and salary employment during the recovery period.

TCPU employment in Arizona also experienced a higher percentage increase compared to to the U.S., because of growth of the transportation sector. However, the peak-to-peak percentage increase in TCPU (10.4 percent) was almost half the percentage increase of total nonagricultural salary employment (17.4 percent). The sharp decline in communication employment, in both the recession and recovery period, was the primary cause of lower employment growth in TCPU in Arizona. The communication industry was indeed faced with a major restructuring during that period.

The mining industry in Arizona experienced the largest percentage (44.7 percent) decline in employment between June 1981 and September 1982. The industry is still declining despite the high rate of growth of employment in Arizona. Arizona mining consists primarily of copper mining, which has been troubled with structural and secular changes like weak copper demand, low world market prices, and strikes at major copper companies. The decline in mining employment in Arizona was further accentuated by the divesting of capital from this industry to other sectors of the economy.

In this section, we now turn to examining the gains in Arizona employment at more detailed--two-, three-, and four-digit--industry levels. These breakdowns are included because several of the three- and four-digit industries demonstrated a sizeable gain in employment which otherwise could not be differentiated. Table 3 lists the ranking of 20 industries with the largest employment gains. It shows that the largest numerical gains in employment came mostly from the service-producing sectors, such as eating and drinking places and personnel services, along with hotels, rooming houses, camps, and other lodging places. The major employment gains realized from the goods-producing sector were from the residential construction and from some durable-manufacturing industries such as semiconductors and related devices; stone, clay, glass, and concrete products; and lumber and wood products. Although the industries shown in Table 3 were the largest contributors in employment gains, they were not necessarily the most rapidly growing industry groups in creating employment. In fact, several smaller industry groups such as computer and data processing services increased their employment more rapidly than other industries. Table 4 lists the ranking of 20 industries with the largest percentage increase in employment that occurred between 1979 and 1984. Table 5 exhibits the Arizona trough and peak employment figures in detail, along with their respective numerical and percentage changes for most of the two- and three-digit industry levels which experienced significant cyclical gains between 1979 and 1984.

In summary, the Arizona economy experienced a larger percentage gain in employment in all the major industry divisions except mining, compared to the U.S., in the recovery period of 1982 through 1984. The larger percentage increase in Arizona employment compared to the U.S. is the result of an underlying long-term strength in the Arizona economy. Most of the increased employment in Arizona primarily came from the service-producing sector. The employment increase in the service-producing sector was more than twice the employment increase in the goods-producing sector. Among the service-producing sector, business services, retail trade, and credit agencies were the ones from which most of the Arizona jobs came during the last expansionary period.

Jalal Ahmad

TABLE 1: ARIZONA NONAGRICULTURAL EMPLOYMENT
PEAKS, TROUGHS, PEAKS
1979-1984

	Peak	Trough	Peak	%-Decline Peak to Trough	%-Gain Trough to Peak	%-Gain Peak to Peak
Total Wage & Salary	Dec. 1981	Aug. 1982	Dec. 1984	(5.8)	24.7	17.4
Mining	June 1981	Sep. 1982	Dec. 1984	(44.7)	(9.2)	(49.8)
Construction	Aug. 1979	Mar. 1982	Nov. 1984	(30.7)	65.0	12.5
Manufacturing	Aug. 1981	Dec. 1982	Dec. 1984	(7.8)	18.9	9.6
Durable	Aug. 1981	Dec. 1982	Dec. 1984	(8.8)	21.9	11.2
Nondurable	Aug. 1981	Nov. 1982	Nov. 1984	(5.0)	10.2	4.7
TCPU	June 1982	Aug. 1983	Dec. 1984	(8.4)	20.5	10.4
Trade	Dec. 1980	Aug. 1982	Dec. 1984	(4.0)	25.0	20.0
Wholesale	Dec. 1980	Aug. 1982	Dec. 1984	(5.4)	26.1	19.3
Retail	Dec. 1980	Aug. 1982	Dec. 1984	(3.7)	24.7	20.2
FIRE	June 1981	Jan. 1982	Dec. 1984	(0.5)	20.5	19.9
Services	Apr. 1981	Jan. 1982	Dec. 1984	(0.4)	31.7	31.3
Government	Apr. 1980	July 1982	Dec. 1984	(15.5)	23.0	4.0

SOURCE: Current Employment Statistics (CES) Survey, Research Administation, Arizona Department of Economic Security.

TABLE 2: U.S. NONAGRICULTURAL EMPLOYMENT
PEAKS, TROUGHS, PEAKS
1979-1984

	Peak	Trough	Peak	%-Decline Peak to Trough	%-Gain Trough to Peak
Total Wage & Salary	July 1981	Dec. 1982	Dec. 1984	(3.1)	8.9
Mining	**NO CYCLICAL CHANGE**			--	--
Construction	Jan. 1980	Mar. 1983	Dec. 1984	(17.3)	21.5
Manufacturing	June 1979	Dec. 1982	Dec. 1984	(14.7)	9.3
Durable	June 1979	Dec. 1982	Dec. 1984	(18.9)	12.9
Nondurable	June 1979	Feb. 1983	Dec. 1984	(8.5)	4.4
TCPU	Nov. 1979	Feb. 1983	Dec. 1984	(4.4)	5.8
Trade	Aug. 1981	Nov. 1982	Dec. 1984	(1.2)	10.5
Wholesale	Aug. 1981	Feb./May 1982	Dec. 1984	(3.4)	9.7
Retail	Aug. 1981	Jan. 1982	Dec. 1984	(1.1)	11.6
FIRE	July 1981	Nov. 1982	Dec. 1984	0.7	5.1
Services	July 1981	Nov. 1982	Dec. 1984	2.8	7.3

SOURCE: U.S. Department of Labor, Bureau of Labor Statistics.

TABLE 3: 20 ARIZONA INDUSTRIES WITH LARGEST EMPLOYMENT GAINS FROM TROUGH TO PEAK

INDUSTRY GROUP	INDUSTRY DIVISION OR SUBDIVISION	EMPLOYMENT GAINS
Eating Places	Retail Trade	17,969
Personnel Services	Services	11,223
Electrical & Electronic Machinery	Durable Manufacturing	9,836
Electronic Components	Durable Manufacturing	8,721
Durable Wholesale Trade	Wholesale Trade	7,994
Semiconductors & Related Devices	Durable Manufacturing	7,182
Hotels, Rooming Houses, Camps & Other Lodging Places	Services	6,650
General Building Contractor-Residential Building	Construction	5.651
Department Stores	Retail Trade	5,024
General Building Contractors-Nonresidential Buildings	Construction	3,544
Nondurable Wholesale Trade	Trade	3,178
Stone, Clay, Glass & Concrete Products	Durable Manufacturing	2,983
Credit Agencies & Other Banks	FIRE	2,808
Fabricated Metals	Durable Manufacturing	2,381
Printing, Publishing & Allied Industries	Nondurable Manufacturing	2,332
Miscellaneous Shopping Goods Stores	Nondurable Manufacturing	2,301
Legal Services	Services	2,113
Building Materials, Hardware	Retail	2,029
Personal Services	Services	1,894
Lumber & Wood Products	Durable Manufacturing	1,855

TABLE 4: 20 ARIZONA INDUSTRIES WITH LARGEST PERCENTAGE GAINS FROM TROUGH TO PEAK

INDUSTRY GROUP	INDUSTRY DIVISION OR SUBDIVISION	PERCENTAGE GAINS
Personnel Services	Services	131.5
General Building Contractors-Residential Building	Construction	95.6
Paper and Allied Products	Nondurable Manufacturing	73.8
General Building Contractors-Nonresidential Buildings	Construction	60.8
Stone, Clay, Glass & Concrete Products	Durable Manufacturing	58.1
Computer & Data Processing Services	Services	49.1
Furniture & Fixtures	Durable Manufacturing	48.9
Electronic Components (not elsewhere classified)	Durable Manufacturing	45.2
Miscellaneous Plastic Products	Nondurable Manufacturing	45.2
Retail Nurseries	Retail Trade	45.1
Security Brokers, Dealers & Flotation Companies	FIRE	43.6
Credit Agencies & Other Banks	FIRE	41.9
Transportation Services	TCPU	40.0
Furniture, Home Furnishings & Equipment Stores	Retail Trade	38.0
Lumber & Wood Products	Durable Manufacturing	34.3
Electronic Components	Durable Manufacturing	31.7
Legal Services	Services	31.6
Fabricated Metals	Durable Manufacturing	31.3
Hotels & Rooming Houses	Services	30.0
Eating Places	Retail Trade	29.5

SOURCE (Above two tables): Establishment Survey (ES 202), Research Administration, Arizona Department of Economic Security

TABLE 5: TROUGHS AND PEAKS OF ARIZONA INDUSTRIES
SHOWING CYCLICAL CHANGES FROM 1982 THRU 1984

	Trough In 1982-83	Peak in 1984	Change in Employment	Percent Change
MINING AND QUARRYING	14,200	12,900	(1,300)	(9.2)
CONSTRUCTION				
Building Construction	13,972	23,684	9,712	69.5
General Building Contractors-Residential	5,913	11,564	5,651	95.6
General Building Contractors-Nonresidential	5,825	9,369	3,544	60.8
MANUFACTURING				
Durable Goods				
Lumber and Wood Products	5,416	7,271	1,855	34.3
Furniture & Fixtures	1,945	2,890	945	48.9
Stone, Clay, Glass and Concrete Products	4,979	7,872	2,893	58.1
Primary Metal Industries	6,500	7,581	1,081	16.6
Fabricated Metals	7,610	9,991	2,381	31.3
Machinery except Electrical	25,173	26,452	1,279	5.1
Electrical & Electronic Machinery	34,714	44,550	9,836	28.3
Communication Equipment	3,894	4,246	352	9.0
Electronic Components	27,529	36,250	8,721	31.7
Semicondustors and Relates Devices	24,376	31,558	7,182	29.5
Electronic Components (not elsewhere specified)	2,276	3,304	1,028	45.2
Nondurable Goods				
Food and Kindred Products	8,621	8,643	22	0.3
Apparel	4,803	5,185	382	8.0
Paper and Allied Products	1,074	1,867	793	73.8
Printing, Publishing and Related Industries	11,679	14,011	2,332	20.0
Chemical and Allied Products	3,199	3,600	401	12.5
Rubber and Miscellaneous Plastic Products	2,888	3,914	1,026	35.5
Miscellaneous Plastic Products	2,276	3,304	1,028	45.2
TRANSPORTATION, COMMUNICATION & PUBLIC UTILITIES				
Transportation Services	2,398	3,357	959	40.0
Communication	17,309	16,104	(1,205)	(7.0)
Telephone Communication	12,428	10,783	(1,645)	(13.2)
Electric, Gas and Sanitary Services	10,674	11,507	833	7.8
TRADE				
Wholesale Trade-Durable	30,180	38,174	7,994	26.5
Wholesale Trade-Nondurable	18,680	21,858	3,178	17.0
Retail Trade				
Building Materials, Hardware & Mobile Home Dealers	8,263	10,292	2,029	24.6
Lumber and other Building Material Dealers	4,810	6,098	1,288	26.8
Hardware Stores	1,158	1,361	203	17.5
Retail Nurseries	906	1,315	409	45.1
Department Stores	23,582	28,606	5,024	21.3
Motor Vehicle Dealers	8,926	10,867	1,941	21.7
Auto and Home Supply Stores	6,003	6,738	735	12.2
Gasoline Service Stations	7,165	7,833	668	9.3
Furniture, Home Furnishings & Equipment Stores	3,124	4,309	1,185	38.0
Eating and Drinking Places	64,915	83,834	18,919	29.1
Eating Places	60,865	78,834	17,969	29.5
Drinking Places	4,005	5,000	995	24.8
Miscellaneous Shopping Goods Stores	8,293	10,594	2,301	27.7
FINANCE, INSURANCE AND REAL ESTATE				
Banking	20,227	22,003	1,776	8.8
Credit Agencies and Other Banks	6,709	9,517	2,808	41.9
Security Brokers, Dealers & Flotation Companies	1,508	2,166	658	43.6
Insurance Agents, Brokers and Service	5,333	6,511	1,178	22.1
Real Estate Operators	6,319	7,315	996	15.8
SERVICES AND MISCELLANEOUS				
Hotels, Rooming Houses, Camps & Other Lodging Places	22,249	28,899	6,650	30.0
Personal Services	13,365	15,259	1,894	12.3
Personnel Services	8,531	19,754	11,223	131.5
Computer and Data Processing Services	3,439	5,129	1,690	49.1
Motion Pictures	1,612	1,639	27	1.7
Amusement & Recreation Services-Except Motion Pictures	9,288	10,506	1,218	13.1
Health Services	59,600	70,200	10,600	17.8
Legal Services	6,687	8,800	2,113	31.6

NOTE: Numbers may not add up because peaks and troughs of Industry subdivisions may not coincide with peaks and troughs of that major industry.

SOURCE: Establishment Survey (ES-202), Research Administration, Arizona Department of Economic Security.

UNEMPLOYMENT INSURANCE: THE GOLDEN ANNIVERSARY

With the Unemployment Insurance (UI) system commemorating its 50th anniversary on August 14, it is an appropriate time to reflect on the contribution the system has made to Arizona's economy. The federal-state cooperative system of unemployment insurance was initiated by the Social Security Act of 1935 and subsequent legislation passed by the 50 states, the District of Columbia, Puerto Rico, and the Virgin Islands. Funded primarily by employer tax contributions, the UI system is designed to replace income lost and reduce the economic hardship that occurs when workers lose their jobs.

The Arizona UI program was established in 1936, and by 1938 the system had sufficient funds to begin paying benefits. In that first year, about $1.8 million was distributed to UI recipients in Arizona, compared to over $213 million in 1982. These figures suggest that UI payments have a substantial impact on the regional economy, especially in recent years.

In assessing the impact of UI programs, an economist may suggest that the overall impact is neutral. Since the benefits are paid from funds generated by payroll taxes, they are merely "transfer payments" from one group to another. In fact, one might argue that the maintenance of a trust fund totaling many millions of dollars drains money away that could have been paid directly to workers, or perhaps invested in job-creating plant and equipment.

These claims do not hold up when Arizona's UI program is examined. Table 1 demonstrates that over $1.2 billion in benefits have been paid out over the last 10 years, with a net positive contribution of over $365 million to state personal income during the period. While these numbers are impressive, they understate the countercyclical (i.e., anti-recession) effects of the UI program, and they fail to illustrate the social and human impact of the program, much of which is difficult to measure.

A chronology of program activity shows the significant impact that UI has had since 1975, particularly during periods of severe recession. During 1975 and 1976, for example, when unemployment in Arizona soared as high as 13 percent of the labor force, over $300 million in benefits were distributed when they were needed the most, while employers were taxed only $70 million at a time when they could least afford to contribute. The net injection of $231 million in 1975 was equal to nearly two percent of total personal income in Arizona that year. A total of 174,506 UI claimants were served during 1975, or nearly 18 percent of the state's labor force at the time.

From 1977 through 1981, Arizona enjoyed a period of rapid economic expansion and relatively low unemployment. With the employers in the state in healthier condition, their contributions to the UI system increased while benefits paid declined from the levels observed during the prior recession. This combination of factors allowed the severely depleted UI trust fund balance to rise by $245 million. Considering the extraordinary rate of economic growth in Arizona over that five year period, it is difficult to claim that the economy suffered much of a negative impact from UI taxes.

The years 1982 and 1983 brought back conditions which demonstrate how important the UI system is during economic recessions. Over $400 million in benefits were paid while about $129 million was contributed by employers. Two hundred thousand claimants were served during 1982, comprising nearly 15 percent of the Arizona labor force.

The $1.2 billion in benefits paid by the Arizona UI program since 1975 represents only a portion of the positive impact of the UI system. The main objective of unemployment insurance is to help maintain a floor of household income when workers lose their jobs due to changes in economic conditions. Even if UI payments replace only 40 to 50 percent of net wages, they often represent the major method of meeting the basic needs of the unemployed for food and shelter, with the only alternative being an incalculable burden on public assistance programs. The state in general continues to benefit indirectly from the economic impact of the expenditures made by UI recipients, including millions of dollars in sales tax revenues, and these benefits are even more critical during recessions. There is no doubt that the hundreds of millions of dollars pumped into Arizona's economy by the UI program during the last two recessions prevented additional thousands of workers from losing their jobs.

The Arizona UI program has had a significant positive impact on the state economy for all these reasons; in addition, the program has produced a net surplus of funds for the following reasons:

- The many jobs lost in Arizona due to foreign competition and the extended duration of unemployment for many workers in these industries has made many Arizonans eligible for federally-funded benefit programs during the last 10 years.
- As a rapidly expanding state with a growing economy, Arizona attracts many more UI claimants from other states than it exports to other states.
- High interest rates have enabled the trust fund to earn significant returns in recent years.

As a result, the 10-year net benefit of $365 million, or about $37 million per year, represents a reasonable, conservative estimate of the value of the UI program to the state economy. In 1983, the U.S. Department of Labor published a research paper titled "The Effects of Aggregate Unemployment Insurance Benefits in the U.S. on the Operation of a Local Economy." The study, prepared by Ronald Oaxaca and Carol Taylor of the University of Arizona, measured the effects of UI payments on regional economic activity, focusing on Maricopa County during 1975-1976, a period of high unemployment in the Phoenix area.

Oaxaca and Taylor used an econometric model of the local economy to simulate the impact of UI benefits on employment, income, and sales. They discovered that the Phoenix area economy is somewhat more cycle-sensitive than the national economy; as a result, UI benefit payments have a proportionately greater impact on Maricopa County than on the U.S. as a whole. The researchers estimated that wage and salary employment in the U.S. would have been reduced by about 0.5 percent in the absence of UI benefits, while the absence of the UI system would have cost Maricopa about 2.2 percent of its wage and salary jobs.

The combined impact of the state and federal UI programs during 1975-1976 was based on spending by households receiving UI benefits during that period. In Maricopa County, about 19,000 jobs were generated by the multiple effects of UI payments on the local economy. Disposable personal income was raised by about 3.2 percent over the level that would have existed if there were no UI programs.

It is clear that, when the direct and indirect effects of the UI system are examined, unemployment insurance provides a significant economic buffer during periods of recession. The indirect economic benefits, combined with the reduction of the social and psychological stress associated with the human tragedy of unemployment, are immeasurable.

Brian Cary

* * *

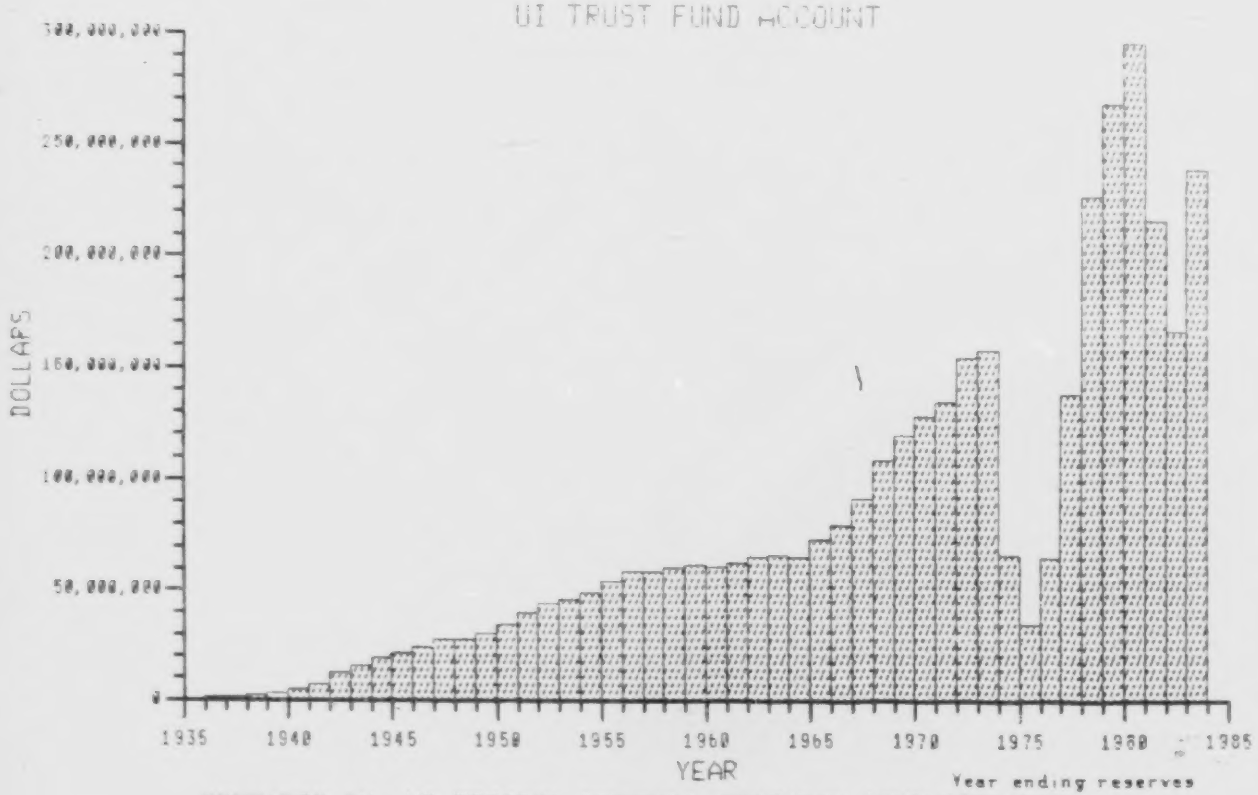
NET ARIZONA UI PROGRAM ACTIVITY
1975-1984

	Benefits Paid All Programs	Employer Contributions	Change In Trust-Fund Balance	Net Income Added To Arizona's Economy
1975	$ 170,554,280	$ 27,001,642	$-88,108,152	$ 231,660,789
1976	136,756,764	43,341,276	-32,841,045	126,256,533
1977	71,328,801	78,492,622	+30,793,440	-37,957,261
1978	66,569,963	97,578,492	+70,933,948	-101,942,477
1979	52,938,661	107,042,814	+90,661,103	-144,765,256
1980	97,653,284	87,086,118	+37,378,727	-26,811,561
1981	98,082,776	70,891,421	+15,313,939	+11,877,417
1982	213,110,274	62,611,596	-75,285,939	+225,784,617
1983	202,146,716	66,327,644	-37,840,016	+173,656,085
1984	104,946,156	124,940,248	+72,698,403	-92,692,495
TOTAL	1,124,087,672	765,313,874	+83,704,407	365,069,391

SOURCE: Arizona Department of Economic Security, Research Administration, UI Reports, July 1985.

ARIZONA DEPARTMENT OF ECONOMIC SECURITY
UNEMPLOYMENT INSURANCE ADMINISTRATION

UI TRUST FUND ACCOUNT



PREPARED BY: UI REPORTS SECTION, RESEARCH ADMINISTRATION

THE ARIZONA LABOR FORCE IN JUNE

A combination of job losses among high technology manufacturers and increasing migration to the state pushed total unemployment to 98,300 people, its highest level since October 1983. Although 17,400 jobs were lost between May and June, those losses were expected as schools closed for the summer and released noncontract staff. Coupled with slower resort business in the desert areas, total employment levels usually are reduced until September or October. While that is clearly happening again, the increase in the unemployment rate from 6.1 to 6.6 percent is being dominated by new migrants to the state who arrive here predominately in the summer.

For the second month in a row, the machinery sector of manufacturing lost employment. Led by the electronics subsector where semi-conductor firms continue to face declining demand, a total of 500 jobs were lost. If it were not for the fact that the defense-dominated sector of aerospace added 600 employees, our high technology employers would be suffering serious problems. The outlook is for more of the same in the months ahead. Except for seasonal expansions in aggregates and lumber, the manufacturing sector will be influenced by expanding defense purchases and declining electronics sales. Since electronic employment is greater than aerospace, the overall direction in manufacturing shows a slight decline.

Construction employment increased by 100 in June, its smallest increase since December of last year when a small decrease was recorded. Lower interest rates are expected to keep single family housing strong into next year, but rising vacancy rates in multi-family and commercial real estate coupled with uncertainty over tax law changes will likely begin to have an overall depressing effect on construction. It is truly amazing that in the last 2-1/2 years, this industry has grown 67 percent. Services is a distant second at 31 percent.

The balance of the economy produced expected results in June. Copper mining declined again, losing another 100 jobs. At this point, except for a handful of companies who are holding their own, the industry continues to slowly slide downward.

In trade, services, and government, the arrival of hot summer weather reduced jobs in the desert areas while northern counties saw rising employment levels. Particularly hard hit were hotels, restaurants, and schools. But that is expected and their employment will remain down until fall arrives. On the positive side, firms dealing in the sales and servicing of autos saw a jump in employment while the recently strong business-services sector added another 800 jobs. In the last year, 5,600 new jobs have been added in business services. But most of that growth continues to be in the potentially volatile temporary help agencies. If cutbacks begin to occur, this sector is particularly vulnerable.

Arizona's economy has entered a period of transition. Migration to the state is strong but employment growth is declining. In manufacturing, defense-related businesses face rising demand while electronics companies generally are reducing production and in some cases implementing limited layoffs. Lower interest rates should help to sustain residential construction, but rising vacancy rates among multi-family and commercial structures will surely work to reduce employment overall in the industry. And while continued population growth will help to keep services and retail trade strong, a weakened economy will impact adversely on them, making them less strong than they would otherwise be.

Compared to nine months ago, the employment picture is a mixture of pluses and minuses. But at this point in the business cycle, that is the expected situation as different industries reach their peaks and then decline at different rates. Employment growth will likely be less than a year ago, with unemployment rising due to increased migration. On the surface that might be reason for concern, but Arizona's economy, particularly in the Phoenix and Tucson areas, remains viable.

Dan Anderson

Arizona Labor Force and Employment

June 1985 (in thousands)

	ARIZONA				
				-- Amt Change --	
	Jun.* 1985	May. 1985	Jun. 1984	May. to Jun.	1984 to 1985
TOTAL CIVILIAN LABOR FORCE**	1443.6	1458.6	1424.4	-15.0	+19.2
Total Unemployment	98.3	86.7	72.3	+11.6	+26.0
Rate	6.8	5.9	5.1	---	---
Rate (Sea. Adj.)***	6.6	6.1	4.8	---	---
Total Employment	1345.3	1371.9	1352.1	-26.6	-6.8

THE ABOVE LABOR FORCE STATISTICS SHOULD NOT

NONAGRICULTURAL WAGE AND SALARY EMPLOYMENT BY PLACE OF WORK

	Jun.* 1985	May. 1985	Jun. 1984	May. to Jun.	1984 to 1985
TOTAL WAGE AND SALARY	1247.2	1264.6	1168.9	-17.4	+78.3
Manufacturing	182.1	181.6	172.5	+0.5	+9.6
Durable Goods	144.7	144.1	136.2	+0.6	+8.5
Stone, Clay and Glass	8.3	8.1	7.5	+0.2	+0.8
Primary and Fabricated Metals	17.0	17.1	16.3	-0.1	+0.7
Primary Metals	7.2	7.3	6.9	-0.1	+0.3
Fabricated Metals	9.8	9.8	9.4	+0.0	+0.4
Machinery	70.8	71.3	68.1	-0.5	+2.7
Other Durable Goods	48.6	47.6	44.3	+1.0	+4.3
Aircraft and Missiles	21.9	21.3	19.9	+0.6	+2.0
~~Lumber~~ and Wood Product :(Except Furniture)	7.6	7.4	7.3	+0.2	+0.3
All Other Durable Goods	19.1	18.9	17.1	+0.2	+2.0
Nondurable Goods	37.4	37.5	36.3	-0.1	+1.1
Food and Kindred Products	8.0	7.9	7.7	+0.1	+0.3
Apparel	4.7	4.6	5.1	+0.1	-0.4
Printing and Publishing	14.3	14.4	13.4	-0.1	+0.9
All Other Nondurable Goods	10.4	10.6	10.1	-0.2	+0.3
Mining and Quarrying	11.3	11.4	13.6	-0.1	-2.3
Copper Mining	8.6	8.7	10.8	-0.1	-2.2
Other Mining and Quarrying	2.7	2.7	2.8	+0.0	-0.1
Construction	110.4	110.3	98.4	+0.1	+12.0
Trans., Communications, and Public Utilities	62.8	62.5	60.3	+0.3	+2.5
Transportation	28.9	28.9	27.7	+0.0	+1.2
Communication and Public Utilities	33.9	33.6	32.6	+0.3	+1.3
Trade	301.6	303.0	283.1	-1.4	+18.5
Wholesale Trade	62.8	62.9	58.0	-0.1	+4.8
Retail Trade	238.8	240.1	225.1	-1.3	+13.7
General Merchandise and Apparel	38.0	38.6	37.4	-0.6	+0.6
Food Stores	36.6	36.7	34.4	-0.1	+2.2
Automotive and Service Stations	29.1	28.7	27.3	+0.4	+1.8
Eating and Drinking Places	84.2	84.9	79.0	-0.7	+5.2
Other Retail Trade	50.9	51.2	47.0	-0.3	+3.9
Finance, Insurance, and Real Estate	76.4	75.9	72.4	+0.5	+4.0
Services and Miscellaneous	297.1	297.2	276.4	-0.1	+20.7
Hotels and Other Lodging Places	31.3	32.2	27.8	-0.9	+3.5
Business Services	67.5	66.7	61.9	+0.8	+5.6
Health Services	71.7	71.3	69.0	+0.4	+2.7
Other Services	126.6	127.0	117.7	-0.4	+8.9
Government	205.5	222.7	192.2	-17.2	+13.3
Federal	41.1	41.4	39.5	-0.3	+1.6
State and Local	164.4	181.3	152.7	-16.9	+11.7
School	91.4	110.0	82.1	-18.6	+9.3

* Preliminary

** Labor force, unemployment, and employment are reported by place of residence.

*** Normal seasonal variations have been eliminated to reflect underlying economic trends.

NOTE--Prepared in cooperation with the U.S. Department of Labor,Bureau of Labor Statistics.

June 1985 (in thousands)

MARICOPA COUNTY					PIMA COUNTY				
			-- Amt Change --					-- Amt Change --	
Jun.* 1985	May. 1985	Jun. 1984	May. to Jun.	1984 to 1985	Jun.* 1985	May. 1985	Jun. 1984	May. to Jun.	1984 to 1985
915.0	925.6	897.4	-10.6	+17.6	259.0	265.5	260.0	-6.5	-1.0
45.2	41.8	34.2	+3.4	+11.0	13.8	13.1	10.9	+0.7	+2.9
4.9	4.5	3.8	---	---	5.3	4.9	4.2	---	---
4.9	4.6	3.6	---	---	5.2	5.1	4.0	---	---
869.8	883.8	863.2	-14.0	+6.6	245.2	252.4	249.1	-7.2	-3.9

E USED FOR ECONOMIC ASSISTANCE PROGRAMS

NONAGRICULTURAL WAGE AND SALARY EMPLOYMENT BY PLACE OF WORK

821.6	829.7	760.6	-8.1	+61.0	225.1	230.7	213.2	-5.6	+11.9
132.1	132.1	124.9	+0.0	+7.2	31.4	31.0	29.3	+0.4	+2.1
106.0	106.0	99.6	+0.0	+6.4	26.3	26.0	24.4	+0.3	+1.9
5.0	4.9	4.4	+0.1	+0.6					
11.4	11.4	10.3	+0.0	+1.1					
56.9	57.4	54.9	-0.5	+2.0					
32.7	32.3	30.0	+0.4	+2.7					
26.1	26.1	25.3	+0.0	+0.8	5.1	5.0	4.9	+0.1	+0.2
5.3	5.2	5.3	+0.1	+0.0					
2.9	2.9	3.1	+0.0	-0.2					
10.5	10.5	9.8	+0.0	+0.7					
7.4	7.5	7.1	-0.1	+0.3					
0.6	0.6	0.6	+0.0	+0.0	2.5	2.5	3.8	+0.0	-1.3
76.6	77.0	67.6	-0.4	+9.0	21.2	20.8	18.4	+0.4	+2.8
41.5	41.3	38.8	+0.2	+2.7	8.9	8.9	9.1	+0.0	-0.2
19.8	19.7	18.4	+0.1	+1.4	4.1	4.1	4.2	+0.0	-0.1
21.7	21.6	20.4	+0.1	+1.3	4.8	4.8	4.9	+0.0	-0.1
204.8	205.7	191.9	-0.9	+12.9	49.9	50.1	47.1	-0.2	+2.8
50.1	49.8	46.5	+0.3	+3.6	7.5	7.4	6.6	+0.1	+0.9
154.7	155.9	145.4	-1.2	+9.3	42.4	42.7	40.5	-0.3	+1.9
23.5	23.9	23.5	-0.4	+0.0	7.4	7.6	7.3	-0.2	+0.1
23.2	23.4	22.0	-0.2	+1.2	5.9	5.8	5.5	+0.1	+0.4
18.6	18.4	17.2	+0.2	+1.4	4.5	4.5	4.4	+0.0	+0.1
54.2	54.8	50.4	-0.6	+3.8	15.6	15.8	15.0	-0.2	+0.6
35.2	35.4	32.3	-0.2	+2.9	9.0	9.0	8.3	+0.0	+0.7
59.7	59.3	56.5	+0.4	+3.2	10.7	10.6	10.2	+0.1	+0.5
200.8	202.0	186.0	-1.2	+14.8	55.6	55.2	50.6	+0.4	+5.0
18.4	19.5	15.6	-1.1	+2.8	4.5	4.7	4.2	-0.2	+0.3
54.9	54.3	51.3	+0.6	+3.6	9.8	9.7	8.3	+0.1	+1.5
47.7	47.8	46.8	-0.1	+0.9	15.5	15.0	14.0	+0.5	+1.5
79.8	80.4	72.3	-0.6	+7.5	25.8	25.8	24.1	+0.0	+1.7
105.5	111.7	94.3	-6.2	+11.2	44.9	51.6	44.7	-6.7	+0.2

-- Prepared by Labor Market Information, Research and Analysis (CPS, 1/85)

NONMETROPOLITAN COUNTIES
LABOR FORCE AND EMPLOYMENT
June 1985

	Apache	Cochise	Coconino	Gila	Graham	Greenlee	La Paz
TOTAL CIVILIAN LABOR FORCE*.	16,325	28,200	37,500	12,575	7,350	2,125	4,500
Total Unemployment	3,550	2,400	4,750	1,475	900	400	625
Rate	21.7%	8.5%	12.7%	11.7%	12.2%	18.8%	13.9%
Rate (Seas. Adj.)**. . . .	20.7%	8.3%	11.9%	12.3%	11.9%	19.5%	-INA-
Total Employment	12,775	25,800	32,750	11,100	6,450	1,725	3,875

THE ABOVE LABOR FORCE STATISTICS SHOULD NOT BE USED
FOR ECONOMIC ASSISTANCE PROGRAMS

	Apache	Cochise	Coconino	Gila	Graham	Greenlee	La Paz
TOTAL WAGE AND SALARY. . . .	14,700	22,775	33,725	9,825	4,375	1,750	2,425
Manufacturing.	725	1,875	2,625	1,275	150	25	75
Mining and Quarrying	25	175	50	1,625	50	650	0
Construction	1,025	1,375	1,625	425	150	100	75
Trans., Comm., & Pub. Util..	1,825	1,450	2,300	300	150	50	50
Trade.	1,350	4,875	8,050	1,925	1,300	300	825
Fin., Insur., & Real Estate.	275	650	775	225	150	25	100
Services and Miscellaneous .	4,525	3,050	8,850	1,850	775	100	625
Government	4,950	9,325	9,450	2,200	1,650	500	675

	Mohave	Navajo	Pinal	Santa Cruz	Yavapai	Yuma
TOTAL CIVILIAN LABOR FORCE*.	23,900	26,575	31,150	8,825	32,625	37,900
Total Unemployment	2,450	4,950	4,500	1,650	2,000	9,725
Rate	10.3%	18.6%	14.4%	18.7%	6.1%	25.7%
Rate (Seas. Adj.)**. . . .	10.3%	17.7%	13.9%	18.3%	6.4%	-INA-
Total Employment	21,450	21,625	26,650	7,175	30,625	28,175

THE ABOVE LABOR FORCE STATISTICS SHOULD NOT BE USED
FOR ECONOMIC ASSISTANCE PROGRAMS

	Mohave	Navajo	Pinal	Santa Cruz	Yavapai	Yuma
TOTAL WAGE AND SALARY. . . .	17,875	18,550	24,725	7,825	19,925	22,150
Manufacturing.	2,300	1,825	3,150	925	2,225	1,450
Mining and Quarrying	275	1,100	3,600	0	625	75
Construction	1,575	925	1,075	300	1,975	2,000
Trans., Comm., & Pub. Util..	1,125	1,600	1,150	550	875	900
Trade.	5,200	3,575	4,475	3,175	5,300	6,575
Fin., Insur., & Real Estate.	875	375	675	250	825	850
Services and Miscellaneous .	3,700	5,025	2,825	1,200	4,050	4,150
Government	2,825	4,125	7,775	1,425	4,050	6,150

*Adjusted to the Current Population Survey (CPS) to reflect place of residence.
**Seasonal adjustment not applicable for economic assistance programs.

NOTE--Series for Yuma and La Paz counties start January 1983. Data are not comparable to any past series.

Prepared in conjunction with the U.S. Department of Labor, Bureau of Labor Statistics.

ARIZONA LABOR FORCE AND EMPLOYMENT FOR ECONOMIC ASSISTANCE PROGRAMS
June 1985

County	Civilian Labor Force	Employment	Unemployment	Rate
Statewide	1,443,613	1,345,264	98,349	6.8%
Apache	16,320	12,765	3,555	21.8
Cochise	28,206	25,811	2,395	8.5
Coconino	37,500	32,747	4,753	12.7
Gila	12,579	11,095	1,484	11.8
Graham	7,362	6,462	900	12.2
Greenlee	2,112	1,705	407	19.3
La Paz	4,494	3,875	619	13.8
Maricopa	915,025	869,850	45,175	4.9
Mohave	23,894	21,450	2,444	10.2
Navajo	26,566	21,628	4,938	18.6
Pima	259,042	245,228	13,814	5.3
Pinal	31,159	26,653	4,506	14.5
Santa Cruz	8,820	7,179	1,641	18.6
Yavapai	32,630	30,638	1,992	6.1
Yuma	37,904	28,178	9,726	25.7

These figures are the only official BLS labor statistics to be used for revenue sharing purposes. They are not designed to be used as economic indicators. Note: Series for Yuma and La Paz counties start January 1983. Data are not comparable to any past series.

ESTIMATED HOURS AND EARNINGS OF PRODUCTION WORKERS IN SELECTED INDUSTRIES IN ARIZONA
June 1985

INDUSTRY	AVERAGE WEEKLY EARNINGS			AVERAGE WEEKLY HOURS			AVG. HOURLY EARNINGS		
	JUNE* 1985	MAY 1985	JUNE 1984	JUNE* 1985	MAY 1985	JUNE 1984	JUNE* 1985	MAY 1985	JUNE 1984
FOR THE STATE OF ARIZONA*									
Manufacturing	389.86	387.28	364.00	40.4	40.3	40.4	9.65	9.61	9.01
Aircraft & Missiles	INA	INA	INA	INA	INA	INA	INA	INA	INA
Food & Kindred Products	349.40	332.52	299.12	42.3	40.8	39.1	8.26	8.15	7.65
Primary Metals	504.80	501.14	510.47	40.0	39.9	41.2	12.62	12.56	12.39
Machinery	342.68	344.60	332.03	39.8	39.7	40.1	8.61	8.68	8.28
Copper Mining	561.60	565.04	551.26	41.6	41.7	41.2	13.50	13.55	13.38
Construction	421.37	421.56	433.84	35.8	36.0	37.4	11.77	11.71	11.60
Utilities	570.71	570.71	522.40	43.4	43.4	42.3	13.15	13.15	12.35
Retail Trade**	254.90	244.64	225.81	35.6	35.2	35.9	7.16	6.95	6.29
Wholesale Trade	354.93	350.62	355.94	37.4	37.5	38.9	9.49	9.35	9.15

* Preliminary

** Excludes eating and drinking places.

NOTE--These estimates are based on a sample of full and part-time production and related employees whose payroll and hours are reported for the pay period which includes the 12th of the month. Prepared in cooperation with the U.S. Department of Labor, Bureau of Labor Statistics.

Prepared by Labor Market Information, Research and Analysis (1972 SIC, 1/84)

EMPLOYERS SUPPORT PRE-LAYOFF TEAM APPROACH

On March 7, 1985, three representatives from the U.S. General Accounting Office (GAO) visited Phoenix to learn how Arizona designed and implemented Pre-layoff Assistance. At a meeting coordinated by Title III Dislocated Worker staff, the federal workers met the people who make it work--the Pre-layoff Assistance Coordination Team (PACT). The team consists of representatives from the Arizona Dislocated Worker Program, Unemployment Insurance, and Job Service.

Upon the request of a company facing a layoff or closure, the team responds as a cohesive unit, with each program contributing its input and services. At the company site and on company time, the affected employees are assessed, registered, and advised of the options open to them. They are informed that services will be available to them until they are re-employed. In some cases, a full array of placement services can be provided at the company site.

What this approach means to the affected company and its employees was the subject of a panel discussion by representatives from three major employers who had participated in Pre-layoff Assistance. They were: Robert Cozad, general manager, Ingersoll Rand Corporation of Tucson; George Lopez, personnel director, Gates Learjet Corporation, Tucson; and Richard Kloster, manager of employment, Garrett Turbine Engine Company of Phoenix.

Circumstances of plant closure or layoff and the number of affected employes varied considerably among the companies, as did the PACT approach; but the panel participants were in complete agreement on several issues. For example, there is no established managerial technique for planning and carrying out a layoff. It is a last resort, and even if management is aware of this necessity months in advance, historically, employees have not been notified until the last moment. It was once believed that to do otherwise would adversely affect production. Employee reaction to being "shown the door" with little or no preparation can be traumatic and can create ill feelings. The employee may view the company as uncaring and a bad place to work.

As an alternative, but with some misgivings, the companies at the GAO meeting had opted to try a different approach. They explained the circumstances that forced the layoff to their employees and worked with them to make plans for the future. The PACT provided assistance, from resume writing to retraining, and in some cases job placement in other companies prior to separation.

Production did not slow down; in one case, it doubled. There was no increase in absenteeism. The managers were surprised to find that any effort expended in pre-layoff assistance returned directly to the company. Morale remained high, and employees thanked them for caring. Even workers not scheduled for layoff expressed appreciation and extended themselves to increase production.

The employers were in agreement on the cost effectiveness of this alternative and also on the emotional benefit. There were estimates of large savings in U.I. benefits, training costs, corporate benefits, and other less tangible social programs. The point was also stressed that companies often hire private consultants, at a high cost, to provide pre-layoff assistance with less positive results than that provided by Arizona's PACT.

The emotional impact on the employee was of particular concern. Studies indicate that persons who are abruptly terminated from employment suffer higher incidences of alcoholism, divorce, family abuse, and suicide than the general population. Those employees who left with company support and backing did so with good feelings and a positive attitude. As panelist Robert Cozad stated, "A good employer worries about his employees after the end of the shift."

For more information on the PACT or pre-layoff assistance, contact the Job Training Partnership Act (JTPA) Title III staff at Department of Economic Security, JTPA-Site Code 920Z, P. O. Box 6123, Phoenix, Arizona 85005 or call 255-3957.

SOURCE: Reprint from Arizona Employment and Training Institute (ETI) Newsletter, July 1985.

1985 OCCUPATIONAL EMPLOYMENT SURVEY OF NON-MANUFACTURING INDUSTRIES

For the tenth consecutive year, members of the Department of Economic Security, Research Administration staff, will be contacting certain Arizona employers for the purpose of updating occupational data by industry.

The Occupational Employment Statistics (OES) program is a federal-state cooperative triennial program to determine current occupational employment and to estimate demand for occupational skills by industry.

In 1985, the Research Administration staff will collect data from the following industries: transportation (including travel agencies and warehouses), communications (including radio and television), public utilities, retail trade, wholesale trade, educational services (including libraries), and state and local government.

The OES staff has, over the last three years, successfully surveyed nearly 16,000 firms with more than 800,000 employees. Employers are asked through personal interview or mailout questionnaire to provide a count of their employees by occupation. The cooperation of Arizona's businesses and industries has contributed to survey response rates consistently over 90%--thus ensuring more reliable projections of our state's manpower needs.

When the surveying is completed, the information is tabulated and organized to furnish a clear representation of the occupational makeup of all Arizona industries. It is this information that is needed to develop an employment outlook for the years ahead--that is, what jobs are going to be in demand and what jobs are disappearing. Employment information developed by the OES program has established itself as an integral part of Arizona's education and manpower planning efforts.

If you would like more information on the OES program, or would like to receive copies of the Occupational Profiles which summarize survey results, telephone 255-3876. Outside the Phoenix metropolitan area, but within Arizona, call 1-800-321-0381.

John Wilson

ARIZONA UNEMPLOYMENT INSURANCE ACTIVITIES - MAY 1985

	May 1985	April 1985	May 1984	From One Year Ago
Arizona Claimants Served*	27,528	25,374	27,157	+ 1.4%
Arizona Average Weeks Unemployed**	9.0	8.9	8.3	+ 8.4%
Arizona Benefits Paid*	$ 9,353,537	$ 7,611,795	$ 8,837,930	+ 5.8%
Arizona Trust Fund Balance	$301,169,885	$266,088,244	$212,568,755	+41.7%

*All Programs **UI Only

LEADING ECONOMIC INDICATORS

The following is a reprint of an article which appeared in the March 29, 1985 Federal Reserve Bank of San Francisco's FRBSF Weekly Newsletter. The author is James A. Wilcox, who discusses the Index of Leading Economic Indicators (ILI) and asks the question, "Has the ILI Receded?"

Movements in the Index of Leading Economic Indicators (ILI), compiled by the Department of Commerce, typically garner front-page attention. Every wiggle is analyzed by government and business economists for signals about the future health of the economy with good reason. Each post-war business cycle peak (and trough) has been preceded by a significant decline (and rise) in the ILI. The current recovery is no exception: eight months prior to the beginning of the upswing in December 1982, the ILI began to rise.

"Noise" and News

There are, however, at least two difficulties with using the index as a forecasting aid. The first is that, except with the benefit of sufficiently long hindsight, it is often difficult to judge at the time it occurs whether an upturn or downturn in the index will be sustained. The index often exhibits short-term swings that are soon reversed. Since May 1984, for example, the ILI has changed direction six times. To filter out this "noise" in the numbers, analysts often apply rules-of-thumb. A common rule is that a change in the direction of the index lasting at least three consecutive months constitutes a signal of recession or recovery to come. On this basis, initial estimates of the index in 1984 signalled a recession--they declined in June, July, and August. But just-released revisions of the index now show that it rose in August. Thus, there were only two consecutive months of decline rather than three.

The second difficulty in interpreting the ILI is that the future it may help to predict is somewhat indefinitely far ahead. Major downturns in the ILI, for example, have occurred anywhere from three to 23 months ahead of actual downturns. Upturns in the index have started from one to eight months before the economy bottomed out. The problems of judging sustained changes in the index and of the relatively short average leadtime between turns in the index and turns in the economy (particularly for troughs) have led some analysts to argue that the principal value of the ILI lies in its ability to identify the current state of the economy. Since much economic data are available only after the fact and since they often are subject to substantial revisions, even being able to "predict" the present is valuable.

Construction of ILI

Despite these reservations, the ILI has the advantage of diversification: it is a composite index made up of many different series. Movements in economic activity originate from different sources at different times and the response of the economy to any given stimulus may itself vary over time. By including a wide range of series covering many different activities, the composite index is more likely to detect important changes in the level of aggregate economic activity, regardless of the source of those movements.

From time to time, the series used to construct the ILI have changed. The last major revision took place in 1975 when a number of series were specified in real, or constant dollar, terms rather than in current dollar terms. Since then, new weights have been assigned to the individual series in light of past experience, and the definitions of some of the series have changed. The 12 series currently used to construct the composite index were selected on the basis of six criteria: (1) economic significance, (2) statistical adequacy, (3) consistency of timing at business cycle peaks and troughs, (4) conformity to the business cycle generally, (5) smoothness, and (6) prompt availability of data.

The significance criterion emphasizes series that represent what are thought to be important sources of business cycle movements. Statistical adequacy requires that the available data series faithfully measure movements in those sources. The requirement of consistency focuses attention on series that have reliably turned upward and downward prior to troughs and peaks in overall economic activity. Conformity refers to how consistently a series moves with the overall pattern of activity, not just at business cycle turning points. The smoothness criterion gives emphasis to series whose changes in direction are likely to be maintained. And the availability criterion ensures that the data for the series are available soon after the fact.

The different series reflect developments in many areas of the economy: in labor markets (new unemployment insurance claims, average weekly hours in manufacturing); in financial markets (common stock prices, real money supply, percent change in private credit); in residential construction (new building permits); in business activity (net business formation, real value of contracts and orders for plant and equipment, change in real inventories on hand and on order, real value of new orders for consumer goods, percent of companies receiving slower deliveries); and in prices (percent change in sensitive materials prices).

The recent surge in U.S. imports provides a vivid example of why a broadly based ILI generally provides better signals than any one of its component series. Import penetration has been concentrated in goods rather than services. (It's not difficult for Americans to buy French autos; it is more difficult to buy French taxi rides, unless one goes to France.) This has been especially true in the business equipment industry. About one-quarter of total expenditures by domestic business for durables recently has been for foreign items. Thus, looking at orders alone would suggest weakness in the U.S. economy.

This, however is not the case. The strength of demand from other sources has overwhelmed the depressing effects on the economy of the import surge. Because the ILI includes non-orders series as well as order series, it accurately reflects this strength in the economy. (In fact, through its effects on interest rates and the dollar exchange rate, the strength of demand in these other sectors has contributed to the surge in imports.)

Inflation and Supply Shocks

The ILI's component series were selected primarily on the basis of their records over the 1947-70 period. Peacetime business cycles in that period took place in an environment of low inflation, and were driven primarily by "shocks" to aggregate domestic spending as government and private sector behavior shifted. Since 1970, the American economy has also been buffeted by disturbances in aggregate supply and by shocks originating externally. Moreover, since the late 1960s, the underlying and observed rates of inflation have been through three cycles: the late 1960s rise that culminated in a fall when price controls were imposed in 1971; the mid-1970s rise brought on by OPEC, and the subsequent fall; and the rise in the late 1970s, again associated with OPEC; and the dramatic decline since 1980. These alternating periods of relatively high and low inflation make interpretation of the index as currently constructed problematic.

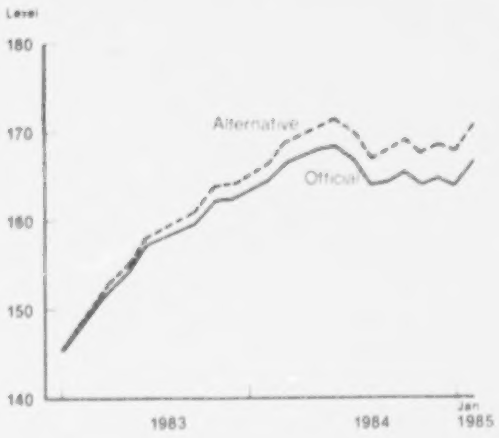
The level of common stock prices, percent changes in sensitive materials prices, and percent changes in private credit are three series included in the index that can distort the index as an indicator of real activity because they are not adjusted for changes in the overall level of prices. When variations in the inflation rate are relatively small, these distortions are relatively unimportant. But suppose there were a sudden large drop in inflation from an average rate of 10 percent to five percent. After the adjustments to this new situation, materials prices and credit growth rates each would be five percent lower than before. Although these lower growth rates would not indicate weaker real growth in the demand for or supply of materials or credit, their inclusion in the ILI would tend to depress the level of the index.

Similarly, the Standard and Poor's 500 stock price index enters the ILI in units unadjusted for the higher level of aggregate prices. If stock prices generally rise one-for-one with the aggregate price level, the unadjusted stock price index would rise, other things being equal, at the rate of inflation. This will tend, unduly, to elevate the ILI even if the real value of equities is unchanged. In the post-1980 period, when inflation slowed dramatically but the price level continued to rise, the effects of these forces would presumably have tended to offset each other to an unknown extent.

Even adjusting materials price inflation for general inflation may not convert it into a reliable signal when there are shocks to aggregate supply as well as to aggregate demand. If there were only demand shocks, the inflation-adjusted, or relative, price of materials may bear a consistent relation to aggregate economic activity. For example, if such prices rose quickly and generally in advance of increases in aggregate demand and output, they would put upward pressure on the ILI. However, if there were a disturbance that reduced the supply of raw materials, the relative price of this supply would also rise, but tend to be associated with lower economic activity. In this case, the ILI again would show an increase even though economic activity would have weakened. This is what happened both in the middle and late 1970s when the world price of oil skyrocketed. The possibility of simultaneous supply and demand shocks makes it difficult to interpret what movements in this component imply about the future state of the economy without supplementary information on the source of such movements.

An Alternative Index

The chart plots the official ILI and an alternative that makes a rough attempt to compensate for the fact that the rates of change in materials prices and in private credit in the index are not adjusted for inflation. As explained earlier, a decline in the economy-wide rate of inflation--such as occurred in 1983-84--would show up as a fall in the ILI, even though economic activity might be unaffected. To remove this anomaly, the new series adjusts the index upward to offset the decline caused by falling inflation. In other words, it is what the index would be if the core, or underlying, inflationary rate had not changed. Since the underlying inflation rate fell an average of 0.1 percent each month in the period 1983-1984, the adjustment consists of adding successive increments of 0.1 percent each month to the rates of growth of materials prices and credit over the period, and then re-computing the ILI on the basis of these new series. Since the actual inflation rate has fallen even further than the core rate, using the actual rate to adjust the index would provide an even bigger boost to the alternative index. Deflating the level of stock prices, on the other hand, would move the alternative index closer to the official index.


Has the Index of Leading Indicators Receded?

The alternative index rises three percent more than the official index over this short period, and although both measures reached their highest levels last May, the alternative index had virtually reattained its peak level by January, while the official index remained somewhat below its peak.

Thus, the alternative index suggests that the official index may not be issuing a sufficiently optimistic signal about the upcoming condition of the economy. As long as the inflation rate declines, the divergence between the two measures will increase. Over periods as brief as a couple of months, these two indexes are likely to behave similarly because the majority of their component series are specified in real terms; that is to say, abstracting of inflation. Only sizeable changes in the prevailing inflation rate, which usually take a number of months to occur, will lead to noticeable differences. But even without modifications for the effects of changing inflation rates, the index of leading economic indicators still provides valuable information about the future state of the economy.

"New Developments" is featured each month as a service to employers and job seekers. It is a compilation of public announcements of the more significant new construction, grand openings, major hirings and layoffs, and other employer events that have special significance for Arizona labor markets. The announcements are paraphrased and otherwise edited from articles published in newspapers and other periodicals from throughout the state. "New Developments" are limited to space available, and no attempt is made to compile an exhaustive list of all such events that have occurred during the month.

CONSTRUCTION - Construction began on the Arizona State University Research Park June 18 with the groundbreaking for the Transamerica Research Center which is being built and will be managed by Transamerica Realty Services. This will be a 50,000-square-foot, $5 million research center and the entire building will be for lease by smaller research and development (R&D) firms. Reginald Owens, executive director of the research park, says that what is important about the Transamerica Research Center, is that it will help the research park accommodate smaller R&D firms which could not afford the expense of constructing their own buildings.

Construction is under way on the second phase of the Phoenix Tech Center, an industrial facility exclusively for high-technology users. The $9 million addition to the center at Elliot Road and Interstate 10 is expected to be completed in November, according to John Lewis, vice president of the contractor, Koll Co. The new construction will include three research and development buildings similar to those built in the first phase. The three will total 134,000 square feet.

Ground was broken for a $12.7 million military helicopter training facility to be constructed north of Pinal Airpark at Marana. Operations at the 161-acre site, where scout and attack helicopter pilots will be trained by the Army National Guard, are scheduled to start October 1, 1986. About 600 students will be trained each year.

The joint-venture partnership of Ocotillo West announced plans for a new 2,700-acre mixed-use development in Chandler. They hope to attract the kind of light, "clean" industry found in California's Silicon Valley--and the high-paid employees of these firms as residents. Touted as a "new town" within the city of Chandler, the Ocotillo development takes the concept of a self-contained community a step further in this market. When completed, the development bounded by Alma School, Price, Chandler Heights, and Queen Creek roads will consist of approximately 66 percent residential use (including open space); 25 percent employment, commercial, office and special use; and 23 percent in recreational areas. Motorola's new Government Electronics Group facility, under construction on the north side of the development, will eventually employ about 6,000 people. Guy Donahue, an Ocotillo West partner, said that no other commitments have been made by business to relocate to Ocotillo, but he envisions a community that will accommodate companies such as Intel and other high-tech firms. Land planner, Wayne Smith said, "Motorola gave great confidence in the project with the decision to build in the area." City officials said they welcome the development with "open arms," and so they should. According to Donahue, the projected assessed value on the land in Phase I is $250-300 million, and upwards of $600 million for the entire 5,000-acre project.

A group of business leaders has announced plans to redevelop two six-block areas downtown into $500 million worth of office, hotel, retail, and cultural facilities. The plan would turn Fillmore Street into a wide boulevard and close other streets. Stephen Dragos, executive vice president of the Phoenix Community Alliance, said whether any other city help would be needed would be up to the developers, who are still being sought. He emphasized, however, "It would be better for us and better for the city if we could do it privately." The two projects, called the Central Avenue and Superblock mixed-use projects, are planned around the land holdings of past and present Alliance members: Arizona Public Service

Co., Phoenix Newspapers, Inc., and the Snell and Wilmer law firm. The first project, the Superblock, is a 16-acre site bounded by Van Buren and Fillmore streets and Third and Fifth streets. The second project, the Central Avenue development, is bounded by First Street and First Avenue from Van Buren to Fillmore. As with the Superblock, nearly 75 percent of the land is in the hands of four owners in or cooperating with the Alliance. The developers of each project hope to acquire the remaining parcels of land within the areas, but if they are unsuccessful, they will ask the City Council to condemn the property to make it available.

The Arizona NFL Expansion Franchise Ltd. bills itself as the group most likely to entice an NFL franchise to Phoenix. The group is headed by Joe Foss, former commissioner of the American Football League, and Bart Starr, former coach and quarterback of the Green Bay Packers. On June 17, in a meeting before business and government leaders, members of this group presented their proposal for building a 65,000-seat, open-air football stadium and, in a second phase, a 35,000-seat domed baseball stadium. John Colbrunn, a partner in the group, said, "The NFL has said more than once that part of the problem with (establishing a team in) Phoenix is that they don't know with whom they're dealing and that everybody has a (different) plan." Even Mayor Terry Goddard was enthusiastic, saying, "This is clearly the most serious and completely thought-out effort I have seen," though he adds, "But there are others, and that's why we have to go the RFP (request for proposals) route."

The stadiums would be built on 60 acres bordered by 13th and Fourth avenues and Jefferson and Harrison streets. Business leaders have taken the lead in pushing for a stadium and an accompanying football team, but the City Council, through its zoning authority and other powers, holds the key to determining whether a stadium will be built in Phoenix.

EDUCATION - An investment in college educations pays off in lower unemployment, according to research by Anne Young of the Bureau of Labor Statistics. Her statistics showed that nearly one out of every 10 men without any college training (9.5 percent) was unemployed last year. But only 2.7 percent of men with a college degree--about one in every 37--were unemployed. Even among men with some college training, the unemployment rate was still about half of those without any college, 5.2 percent. Men with more education also were more likely to be in the labor force, that is, working or looking for work. About 85 percent of men with no college training were in the labor force, but 95 percent of men 25 to 64 years old with four years of college were either employed or actively looking for a job.

Women with a college education also are employed more. Only about half of the women with no college training (57 percent) are in the labor force, and 7.6 percent are unemployed. Note that even without any college, working women have about a 2 percent lower unemployment than men without any college. But with four years of college, more than three-quarters of women 25 to 64 years old (78 percent) are in the labor force, and only 2.7 percent of them are unemployed. The low unemployment rate for college-educated women is identical to that of men.

	No College	4 Years College
MEN		
Percent in Labor Force	85.0	95.0
Percent Unemployed	9.5	2.7
WOMEN		
Percent in Labor Force	57.0	78.0
Percent Unemployed	7.6	2.7

One reason college-trained people are seldom unemployed is because they have more jobs to choose from. If no work is available in their chosen field, they can find work as sales clerks or cab drivers until something better turns up. But a factory worker left unemployed because the plant closed has an almost impossible task of making the transition to an office. However, if present trends continue, the future employment picture looks bright because the number of college-educated people has been growing rapidly. A college education may look expensive, but it is dirt cheap when compared to a 9.5 percent unemployment rate.

REHIRES - Gates Learjet in Tucson announced in mid-May that they were resuming production of their largest jets, and by the end of May had rehired 60 of the 400 workers they hope to rehire by the end of this year. A company spokeswoman said 78 percent of the former employees contacted agreed to come back. Many are leaving other jobs to do so. People who do finishing work on the jets were the last to be laid off and are the first being rehired. Reinstated workers retain seniority and accrued benefits.

LAYOFFS - Marathon Steel Co. announced in mid-June that it would lay off 410 workers and discontinue operations at its steel-rolling mill and production facility in south Tempe. The rolling mill, at Kyrene and Elliott roads, produces steel bars used in construction and grinding balls used in mining. Marathon president Frank Biega said, "The plant would need substantial upgrading of its steel-making equipment to overcome its present high operating costs. However, such improvements cannot be justified economically because of excess production in the Southwest and substantial imports of foreign steel, which have resulted in depressed prices for the mill's products. As a consequence, the rolling mill division has been unprofitable for the past several years." Roy Santa Cruz, subdistrict director for the United Steelworkers of America in Phoenix, which represents about 360 of the workers who will be laid off, said that if Marathon follows through with plans to close the plant, he hopes to negotiate a settlement of several thousand dollars to help retrain workers who would lose their jobs.

TOURISM IN TUCSON - Tourism-related jobs should total 39,300 in Pima County this year, up 80 percent compared with 1975, and tourists are expected to spend up to $1.1 billion this year, according to a City Planning Department study released May 21, 1985. The figures rank tourism near high-tech manufacturing and government as one of the county's largest employers, according to David Taylor, director of economic planning and research for the 75-page countywide study. This study was compiled by the city of Tucson in conjunction with the University of Arizona's Division of Economics and Business Research. Some of the major findings of the report included:

- One out of every 6.5 jobs in Pima County in 1985 will be tourism-related, and travel and tourism expenditures this year will increase personal income by $377.2 million.

- The 40,000 or so jobs generated by the tourism and travel industry in 1985 will double in the next 20 years.

- For every job created directly by tourism in lodging, restaurants, transportation, and entertainment facilities, about two others are eventually created indirectly in support services.

- The projected level of tourism and travel industry revenues to the city of Tucson this year will be about $14.4 million and Pima County will get about $30.5 million. By the year 2000, revenue to the city will have tripled, and for the county the revenue will have increased about eightfold.

- Visitor expenditures in Pima County are projected to be between $935 million and $1.4 billion. By 2000, the report projects expenditures to be between $3.1 billion and $3.7 billion.

- Because of the tourism and travel industry expenditures in Pima County, the total personal income impact of this industry in Arizona, including Pima County, will be $431 million this year and is projected to increase to $3 billion by the year 2000.

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ARIZONA LABOR MARKET INFORMATION NEWSLETTER

Vol. IX No. 9
September 1985

Unemployment Rate

Seasonally Adjusted
July*

ARIZONA	6.7%
Maricopa Co.	5.0%
Pima Co.	5.2%
UNITED STATES	7.3%

Consumer Price Index

National-June
1967 - Base Year

Wage Earner/Clerical Worker - 318.7
% Chg. Yr. Ago 4.1

All Urban - 322.3
% Chg. Yr. Ago 3.7

Phoenix-2nd Qtr.
1977 - Base Year

All Urban - 190.8
% Chg. Yr. Ago 6.0

Producer Price Index

National-July*
1967 - Base Year

All Commodities-309.0
% Chg. Yr. Ago -0.9

Finished Goods -294.8
% Chg. Yr. Ago 0.9

* Preliminary

FORECAST UPDATE: EMPLOYMENT IN ARIZONA

Last January, when we were preparing our annual employment forecasts, Arizona was basking in the afterglow of the remarkable economic performance of 1984. The Arizona economy had created over 100,000 jobs during the year and had ranked at or near the top of the 50 states in nearly every measure of economic growth. A record low unemployment rate of 4.3 percent had been recorded in November, just two months earlier.

Even so, signals of an approaching slowdown were already in evidence. The unemployment rate leaped from 4.4 percent to 5.5 percent in January 1985. The construction and manufacturing sectors, stalwart performers throughout the recovery and expansion of 1983-84, were still growing. However, the diminished intensity of these activities was reflected by slower rates of employment growth.

Forecasting is always a difficult undertaking, especially when structural conditions appear to be changing. We plunged ahead with a relatively cautious forecast in February that predicted continued growth, but at a very modest rate compared to 1984. We expected unemployment to rise as the economy cooled down, reaching a peak during 1986 before conditions improved late in the year.

With seven months of data in for 1985, there were a few surprises. Construction employment continued to grow through the first half of the year. Interest rates remained relatively low, influenced by the aggressive policy pursued by the Federal Reserve. A sharp contrast developed in Arizona's manufacturing sector. Defense contractors continued expanding very rapidly while electronics manufacturers producing for private sector markets reduced work schedules and laid off employees. As a result, employment has continued to rise, but unemployment has increased more rapidly than expected.

We expect unemployment to continue its upward trend through the end of the year. The unemployment rate in Arizona will peak during the first quarter of 1986 at about 7.9 percent. At that point, labor market conditions should begin to improve. Unemployment will drop gradually to an average of 5.8 percent in 1987.

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Nancy Augustin, editor

ARIZONA
(annual averages, in thousands)

	1984	1985	PERCENT CHANGE	1986	PERCENT CHANGE	1987	PERCENT CHANGE
LABOR FORCE	1432.0	1485.2	3.7	1596.8	7.5	1649.3	3.3
EMPLOYMENT	1361.0	1388.6	2.0	1479.0	6.5	1553.1	5.0
UNEMPLOYMENT	71.0	96.6	36.1	117.8	21.9	96.2	-18.3
UNEMPLOYMENT RATE	5.0	6.5		7.4		5.8	
WAGE AND SALARY EMPLOYMENT	1180.8	1258.0	6.5	1291.8	2.7	1361.4	5.4
MANUFACTURING	172.3	181.5	5.3	183.7	1.2	195.2	6.3
MINING	13.3	11.5	-13.5	10.5	-8.7	11.0	4.8
CONSTRUCTION	96.2	108.0	12.3	106.3	-1.6	113.9	7.1
TCPU	60.4	63.4	5.0	66.1	4.3	69.6	5.3
TRADE	286.7	303.8	6.0	311.7	2.6	328.7	5.5
FIRE	71.7	76.2	6.3	78.3	2.8	82.3	5.1
SERVICES	274.1	295.2	7.7	307.6	4.2	325.2	5.7
GOVERNMENT	206.1	218.4	6.0	227.6	4.2	235.5	3.5

Employment will grow very slowly during the next year compared to the breakneck pace of job creation the state experienced in 1984. Wage and salary employment will average about 1.258 million in 1985, 6.5 percent higher than last year. This rate of growth is modest compared to the 9.6 percent increase recorded last year, yet is more than double the 2.7 percent growth rate expected next year.

Most of the increases expected in 1985 have already occurred. Employment will decline in construction but will remain above the 100,000 mark through the forecast period. The average level of 106,300 expected in 1986 is only 1.6 percent below the level for the current year. The number of manufacturing jobs in Arizona will creep upward next year by about 1.2 percent. Some industries will reduce employment, but the rapid growth of aerospace and other defense-contracting activities will prevent overall manufacturing employment from falling in 1986.

By 1987, Arizona will be back on the path of strong economic growth it has traveled for most of its history. Market conditions should improve for electronics manufacturers, some of the surplus of office buildings and apartments will be absorbed, and an improving national economy should bring a high volume of tourist activity to Arizona, stimulating even more growth in the trade and service sectors.

Maricopa County

During 1984 and early 1985 much of the economic activity that was generating such impressive numbers at the state level was occurring in the Phoenix metropolitan area. Since Maricopa County accounts for more than half the statistical measures of population, employment, and income in Arizona, it has a correspondingly dominant impact on the state's economic performance. The enormous gains in construction, manufacturing, and services employment in the county last year resulted in unusually high measures of growth at the state level. While wage and salary employment grew by 9.6 percent in Arizona last year, Maricopa County registered an increase of 11.1 percent.

In 1985, rising unemployment and a slower rate of job creation in the Phoenix area have had the expected effect on Arizona's economic measures. By July, the unemployment rate had reached 5 percent, well below the national average but well above the record low of 3.2 percent recorded just eight months earlier. The trend is expected to continue. Unemployment is expected to rise to about 6.4 percent of the county labor force before reversing direction early next year.

Several factors are contributing to the loss of momentum by the local economy this year. The highly touted technology sector has been slowed by lower product demand, high inventories, and intense international competition. It is expected that these firms, both nationally and in Arizona, will be adding workers again by the end of 1986. Meanwhile producers of equipment for procurement by the Department of Defense are hiring employees at a rapid clip and will probably continue to do so through 1987.

The widely reported surplus of office space in the Phoenix area has yet to result in deep cuts in construction employment, but there are indications that the excess supply, combined with slowing demand for new structures, may result in fewer construction jobs next year. The level of construction employment is expected to drop, but only by 1.5 percent. Moderate interest rates and a large volume of road-building activity should support a relatively high number of construction jobs in the Phoenix area for the duration of the forecast.

Even with so much concern about manufacturing and construction, it would be difficult to overlook the gains achieved in the service-producing sectors. The transportation, communication, and public utilities industry (TCPU) has added hundreds of workers this year and should continue to expand in the months ahead. Finance, insurance, and real estate (FIRE) also is expected to be

MARICOPA COUNTY
(annual averages, in thousands)

	1984	1985	PERCENT CHANGE	1986	PERCENT CHANGE	1987	PERCENT CHANGE
LABOR FORCE	904.9	940.3	3.9	1012.2	7.6	1046.9	3.4
EMPLOYMENT	870.7	892.7	2.5	951.4	6.6	997.6	4.9
UNEMPLOYMENT	34.2	47.6	39.2	60.8	27.7	49.3	-18.9
UNEMPLOYMENT RATE	3.8	5.1		6.0		4.7	
WAGE AND SALARY EMPLOYMENT	769.7	824.4	7.1	846.2	2.6	890.4	5.2
MANUFACTURING	125.1	131.7	5.3	132.3	0.5	138.8	4.9
MINING	0.6	0.6	0.0	0.6	0.0	0.6	0.0
CONSTRUCTION	66.2	75.5	14.0	74.4	-1.5	78.2	5.1
TCPU	39.2	41.8	6.6	44.0	5.3	46.4	5.5
TRADE	194.9	206.6	6.0	212.1	2.7	224.2	5.7
FIRE	56.0	59.5	6.3	61.3	3.0	64.4	5.1
SERVICES	185.6	199.6	7.5	207.0	3.7	219.5	6.0
GOVERNMENT	102.1	109.1	6.9	114.5	4.9	118.3	3.3

an important source of job opportunities during the next two years. The trade sector, a mainstay of the metropolitan economy for many years, will continue to respond to the demands of a growing population and strong tourism activity by hiring thousands of new workers, but not at the explosive pace observed in 1984. A similiar pattern will evolve in the service industries: continued expansion, but slower growth rates.

Population growth also is having a profound effect on government employment in Maricopa County. Rising demand for public services and expanding school enrollments have resulted in unusually high rates of employment growth. The rate of increase is expected to be nearly 7 percent this year. Although the growth rate is expected to diminish over the next two years, the public sector still will create over 5,000 new jobs in Maricopa County during 1986.

The Phoenix metropolitan area is expected to be a hot spot of regional economic activity for years to come. A diversified economic base, built on a sturdy foundation of government, tourism, and defense-related manufacturing, will prevent a major slump from taking place in the foreseeable future. Evidence of the added complexity of the Maricopa County economy can be found in the rapid expansion of business and financial services. The anticipated future growth of commercial and corporate activities in the Southwest promises to stimulate continued growth in these supporting industries. The emergence of Phoenix as a regional business center should result in an expanding number of job opportunities.

The outlook for Maricopa County remains relatively sanguine. We may not see the explosive growth that characterized 1984, but a boom-bust scenario that could occur in a less diversified economy should be averted.

Pima County

Traditionally, the Tucson area has been somewhat more sensitive to changes in the national economic environment than Maricopa County. This has been even more evident in recessions and periods of slow growth during the last 10 years.

This may be changing. The structure of the Pima County economy is in the process of a transformation which has accelerated during the mid-1980s. While thousands have lost their jobs and thousands more still work in the area's mines and smelters, the copper industry is not as prominent in determining the economic fortunes of the Tucson metropolitan area as it has been in the past. Mining employment has fallen steadily in 1984 and 1985 and is expected to continue to decline next year. The effect on Ajo and other single-industry communities has been devastating, but the Tucson area has managed to develop other sources of economic vitality.

One sector which will generate many job opportunities is the tourism industry. Hundreds of first class resort rooms are being added to Pima County's supply of hotel and lodging facilities. This will enhance the ability of Tucson to attract a larger share of the tourist and convention business which historically has gone to other areas. The rapid expansion of tourism also should stimulate the retail trade sector. The northern sections of the metropolitan area should benefit from the proximity of the new resort facilities.

PIMA COUNTY
(annual averages, in thousands)

	1984	1985	PERCENT CHANGE	1986	PERCENT CHANGE	1987	PERCENT CHANGE
LABOR FORCE	260.7	268.2	2.9	294.0	9.6	308.3	4.9
EMPLOYMENT	249.0	253.5	1.8	276.7	9.2	293.9	6.2
UNEMPLOYMENT	11.7	14.7	25.6	17.3	17.7	14.4	-16.8
UNEMPLOYMENT RATE	4.5	5.5		5.9			
WAGE AND SALARY EMPLOYMENT	214.0	229.8	7.4	236.9	3.1	253.2	6.9
MANUFACTURING	29.0	31.0	6.9	32.5	4.8	36.3	11.7
MINING	3.4	2.4	-29.4	2.1	-12.5	2.4	14.3
CONSTRUCTION	18.2	20.3	11.5	19.3	-4.9	21.8	13.0
TCPU	8.9	9.0	1.1	9.2	2.2	9.6	4.3
TRADE	47.3	50.5	6.8	52.0	3.0	54.8	5.4
FIRE	10.0	10.7	7.0	10.9	1.9	11.7	7.3
SERVICES	50.4	55.9	10.9	59.1	5.7	61.9	4.7
GOVERNMENT	46.9	50.0	6.6	51.8	3.6	54.7	5.6

Manufacturing employment in Pima County should continue to increase. A large portion of the manufacturing base is producing defense-related equipment, ensuring continued expansion into 1987. The major electronics firms appear to be adjusting to difficult market conditions, making large-scale layoffs of permanent employees unlikely. As demand improves, these firms should react by expanding operations.

The construction of new roads, hotels and resorts, in combination with brisk home-building activity, has resulted in 2,000 new construction jobs in 1985. Next year should bring lower employment levels as major projects under way earlier this year are completed. By 1987, construction employment should rebound in response to higher levels of demand for housing, commercial, and industrial facilities.

In spite of the slump in the copper industry, the Tucson metropolitan area has managed to increase the diversity of its economic base substantially in recent years. This trend will continue, suggesting that Pima County will be able to sustain growth in employment in the years ahead.

Nonmetropolitan Arizona

A wide variety of conditions exist in the nonmetropolitan counties. Some areas are creating new jobs and growing rapidly while other regions have lost hundreds of jobs which may never be regained. In general, unemployment has been a persistent problem in most of the nonmetropolitan areas. A few communities, including Flagstaff, Prescott,

NONMETROPOLITAN COUNTIES
(annual averages, in thousands)

	1984	1985	PERCENT CHANGE	1986	PERCENT CHANGE	1987	PERCENT CHANGE
LABOR FORCE	266.4	276.7	3.9	290.7	5.1	294.1	1.2
EMPLOYMENT	241.2	242.4	0.5	250.9	3.5	254.8	1.6
UNEMPLOYMENT	25.1	34.3	36.7	39.8	16.0	32.5	-18.3
UNEMPLOYMENT RATE	9.4	12.4		13.7		11.1	
WAGE AND SALARY EMPLOYMENT	197.1	203.8	3.4	208.6	2.4	217.8	4.4
MANUFACTURING	18.2	18.7	2.7	19.0	1.6	20.2	6.3
MINING	9.3	8.4	-9.7	7.8	-7.1	7.9	1.3
CONSTRUCTION	11.8	12.2	3.4	12.4	1.6	13.8	1.1
TCPU	12.3	12.6	2.4	12.9	2.4	13.6	5.4
TRADE	44.5	46.8	5.2	47.7	1.9	49.8	4.4
FIRE	5.7	6.0	5.3	6.0	0.0	6.1	1.7
SERVICES	38.1	39.7	4.2	41.6	4.8	43.9	5.5
GOVERNMENT	57.1	59.4	4.0	61.2	3.0	62.5	2.1

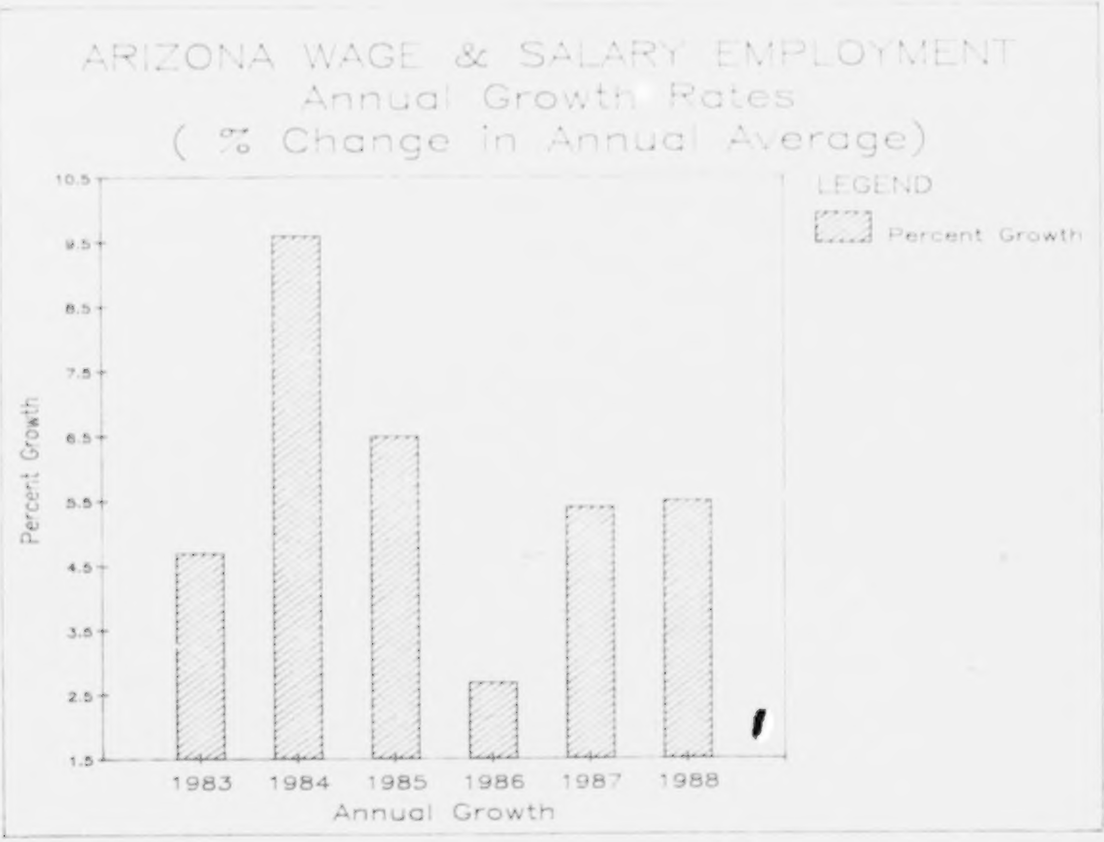
Sierra Vista, and Casa Grande have been able to attract enough jobs to keep unemployment below the double-digit levels that exist in most of the rural areas. Others, such as Clifton-Morenci, Douglas, and Superior have been ravaged by the depressed condition of the copper industry.

There is little in the outlook for the nonmetropolitan counties to suggest any major changes during the next two years. The current sluggishness in economic growth at the national level is expected to continue into 1986, causing higher unemployment throughout nonmetropolitan Arizona as well as in the urban areas. Mining employment will continue to fall, construction activity will slow, and manufacturing activity will be relatively static--some firms will bring on additional employees while others will be laying workers off.

Trade and services employment will grow in the vicinity of the major tourist destinations. Unfortunately, Arizona's southern border regions are likely to continue to lose jobs before their economies improve. The near term outlook for the Mexican economy, upon which retail trade along the border very heavily depends, is that conditions will deteriorate before they improve several years from now.

The Indian Reservations of Arizona also will face rising unemployment in the next two years. The traditional crafts, agriculture, mining, and light-manufacturing activities will not create enough jobs to employ all the reservation residents who are seeking work. The key to economic growth in the future may be to attract new businesses to the reservations.

Brian Cary



SPECIAL MID-DECADE CENSUS TO BEGIN OCTOBER 1 IN MARICOPA COUNTY

About 3,100 people will begin asking questions door-to-door on October 1 this fall to come up with current population counts for cities in Maricopa County. The Maricopa Association of Governments (MAG) has contracted with the U.S. Census Bureau to conduct the headcount which will cost an estimated $3.1 million and will be paid for by the 20 cities participating in the census. It will be the largest special census in recent U.S. history and all households in the following cities and towns are strongly advised to cooperate in this important effort: Avondale, Buckeye, Carefree, Chandler, El Mirage, Gila Bend, Gilbert, Glendale, Goodyear, Guadalupe, Mesa, Paradise Valley, Peoria, Phoenix, Scottsdale, Surprise, Tempe, Tolleson, Wickenburg, and Youngtown.

The people going door-to-door are known as "enumerators" and an instant benefit occurs in Maricopa County as the 3,100 enumerators are hired in full-time, temporary jobs paying $5.49 per hour.* More importantly, these new counts will update 1980 population figures, and that means that the way the economic pie is sliced will shift in direct proportion to the cities' and towns' growth rates. Most cities stand to increase their share of the $370 million Arizona allocates to its communities based on specific rates of growth.

For example, fast-growing Chandler stands to gain an estimated $2.5 million in state revenue-sharing funds in 1986-87 (the first year these revised census figures will be used to apportion state-shared revenues). Phoenix, on the other hand, with its modest population growth, will pay about $1 million to participate in the survey in order to keep from losing the $14 million it would with the use of old 1980 Census figures to calculate its "share." By paying for this mid-decade census, Phoenix will cut its losses to only $6 million in 1986-1987. Likewise, the other 19 cities or towns will all benefit from this special census, even if only to cut their losses from what they would be using 1980 Census counts. Based on the results, local communities stand to gain a larger share of sales tax, gasoline tax (Highway User Revenue Fund), income tax, and lottery dollars.

In 1980, Maricopa County had a population of more than 1.5 million. That figure may have increased to 1.7 million or more, according to Prisilla Hernandez, special census coordinator for MAG. Although early results will be announced before the end of the year, the final tally will not be available until March.

Remember, when the enumerator comes to your door, he or she will keep all responses confidential. And, unlike the door-to-door salesperson, this person is there to make money for you--even if only indirectly.

Nancy Augustin

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*For those interested in the positions of enumerator, crew leader, or clerk, you should contact your nearest DES Job Service office.

NEW LMI PUBLICATIONS

Vocational Program Planning Reports: The Occupational Information System (OIS) has released two reports designed for vocational program planners, administrators, and careers counselors. These reports are by county and statewide in the Classification of Instructional Programs (CIP) format. One report covers 1984 proprietary school and community-based organization enrollments and completors. The other report covers 1984 apprenticeship enrollments and completors.

The 1984 Pima County Employer Wage Survey publication is now available to the public. This booklet reports wage levels in August, 1984 of 70 occupations of the large employers in Pima County. Public and private establishments are included in this yearly survey. Also included in this report are the results of their fringe benefit program study done at the same time.

Copies of these new publications, can be obtained by writing to the address on the back of this NEWSLETTER.

THE ARIZONA LABOR FORCE IN JULY

While the unemployment rate in Arizona was unchanged from June's revised level of 6.7 percent, there is increasing evidence of sluggishness in the recent performance of the regional economy. The number of unemployed rose to 101,500 last month, the first time that the 100,000 mark has been breached since October 1983. The slowing rate of job creation in recent months suggests that we may see unemployment continue to rise in the months ahead.

Much of the decrease in wage and salary employment observed last month can be attributed to seasonal factors. About 7,600 of the 10,000 jobs lost in July were in government--Arizona's schools reduced staffs by over 10,000, while other components of the public sector registered increases. Some seasonal job losses, particularly the trade and service industries, were less than expected at this time of year, with hotels and lodging establishments throughout Arizona continuing to show strength.

The industries that raise our concern right now are those that have led the economic expansion of the last 2 1/2 years. Employment in Arizona's construction industry declined last month by over 1,000, the first decrease since last December and the largest over-the-month decrease since January 1982. Most of the losses were observed in Maricopa County. Construction employment fell by 1,300 in the Phoenix area, while Pima County and the balance of the state actually registered increases. It is too early, on the basis of one month's figures, to predict a trend, but the reduction in construction employment in July may be a reaction to reports of a growing surplus of office space in the Phoenix market. With interest rates firming up in recent weeks, and with more stringent requirements being proposed for federally guaranteed mortgage loans, the near term outlook for construction employment is not promising.

The manufacturing sector also is showing signs of weakness. Total manufacturing employment in Arizona fell by 200 in July, the first decline recorded since January of this year, and only the second decrease since January 1983. This news comes in spite of rapid hiring activity by the state's major defense contractors. A persistent pattern of staff reductions has continued in other sectors of manufacturing, mainly among producers of electrical and electronics equipment. Nondurable goods producers reduced employment by 300 last month, further illustrating our current dependence on the defense industry for employment opportunities in Arizona.

Although the current economic picture pales in comparison to the explosive performance of 1984, there is little reason to expect a slump to compare to the 1981-1982 period. Arizona is still growing. In spite of higher unemployment, the economy is in good shape compared to most regions of the United States. In the Phoenix area, the traditional economic base of government, tourism, and defense-related manufacturing should continue to provide a solid foundation for business expansion in the future. The current uncertainty regarding the economy is symptomatic of a slower rate of economic growth at the national level. Some economic analysts believe that Arizona is a cycle-sensitive lead indicator of the American economy. If they are correct, we may be among the first to know if current conditions are temporary and if the economy will soon move back on the path of rapid economic growth.

Brian Cary

Arizona Labor Force and Employment

July 1985 (in thousands)

	ARIZONA				
				-- Amt Change --	
	Jul.* 1985	Jun. 1985	Jul. 1984	Jun. to Jul.	1984 to 1985
TOTAL CIVILIAN LABOR FORCE**	1429.4	1444.3	1411.4	-14.9	+18.0
Total Unemployment	101.5	99.1	75.2	+2.4	+26.3
Rate	7.1	6.9	5.3	---	---
Rate (Sea. Adj.)***	6.7	6.7	5.0	---	---
Total Employment	1327.9	1345.2	1336.2	-17.3	-8.3

THE ABOVE LABOR FORCE STATISTICS SHOULD NO

NONAGRICULTURAL WAGE AND SALARY EMPLOYMENT BY PLACE OF WORK

TOTAL WAGE AND SALARY	1237.1	1247.1	1157.0	-10.0	+80.1
Manufacturing	182.6	182.8	173.9	-0.2	+8.7
Durable Goods	145.5	145.4	137.4	+0.1	+8.1
Stone, Clay and Glass	8.5	8.5	7.4	+0.0	+1.1
Primary and Fabricated Metals	17.0	17.2	16.6	-0.2	+0.4
Primary Metals	7.1	7.2	7.0	-0.1	+0.1
Fabricated Metals	9.9	10.0	9.6	-0.1	+0.3
Machinery	70.5	71.0	68.8	-0.5	+1.7
Other Durable Goods	49.5	48.7	44.6	+0.8	+4.9
Aircraft and Missiles	22.5	22.0	20.2	+0.5	+2.3
Lumber and Wood Products (Except Furniture)	7.8	7.6	7.2	+0.2	+0.6
All Other Durable Goods	19.2	19.1	17.2	+0.1	+2.0
Nondurable Goods	37.1	37.4	36.5	-0.3	+0.6
Food and Kindred Products	8.2	8.1	7.8	+0.1	+0.4
Apparel	4.4	4.6	5.0	-0.2	-0.6
Printing and Publishing	14.2	14.3	13.4	-0.1	+0.8
All Other Nondurable Goods	10.3	10.4	10.3	-0.1	+0.0
Mining and Quarrying	11.2	11.3	13.6	-0.1	-2.4
Copper Mining	8.7	8.6	10.7	+0.1	-2.0
Other Mining and Quarrying	2.5	2.7	2.9	-0.2	-0.4
Construction	110.0	111.1	98.1	-1.1	+11.9
Trans., Communications, and Public Utilities	63.5	63.1	60.8	+0.4	+2.7
Transportation	28.9	29.0	27.9	-0.1	+1.0
Communications and Public Utilities	34.6	34.1	32.9	+0.5	+1.7
Trade	299.5	301.2	282.3	-1.7	+17.2
Wholesale Trade	62.6	62.7	58.0	-0.1	+4.6
Retail Trade	236.9	238.5	224.3	-1.6	+12.6
General Merchandise and Apparel	37.7	38.0	37.7	-0.3	+0.0
Food Stores	36.1	36.5	34.3	-0.4	+1.8
Automotive and Service Stations	29.6	29.4	27.6	+0.2	+2.0
Eating and Drinking Places	83.4	84.0	78.0	-0.6	+5.4
Other Retail Trade	50.1	50.6	46.7	-0.5	+3.4
Finance, Insurance, and Real Estate	76.9	76.5	72.6	+0.4	+4.3
Services and Miscellaneous	296.1	296.2	275.4	-0.1	+20.7
Hotels and Other Lodging Places	29.8	30.8	27.4	-1.0	+2.4
Business Services	67.9	67.6	60.6	+0.3	+7.3
Health Services	71.4	71.7	69.1	-0.3	+2.3
Other Services	127.0	126.1	118.3	+0.9	+8.7
Government	197.3	204.9	180.3	-7.6	+17.0
Federal	41.5	41.4	39.9	+0.1	+1.6
State and Local	155.8	163.5	140.4	-7.7	+15.4
School	79.9	90.0	68.5	-10.1	+11.4

* Preliminary
** Labor force, unemployment, and employment are reported by place of residence.
*** Normal seasonal variations have been eliminated to reflect underlying economic trends.
NOTE--Prepared in cooperation with the U.S. Department of Labor, Bureau of Labor Statistics.

Arizona Labor Force and Employment

July 1985 (in thousands)

MARICOPA COUNTY					PIMA COUNTY				
			-- Amt Change --					-- Amt Change --	
Jul.* 1985	Jun. 1985	Jul. 1984	Jun. to Jul.	1984 to 1985	Jul.* 1985	Jun. 1985	Jul. 1984	Jun. to Jul.	1984 to 1985
905.4	915.1	889.8	-9.7	+15.6	256.6	259.8	253.8	-3.2	+2.8
47.2	45.7	34.4	+1.5	+12.8	14.0	14.2	10.9	-0.2	3.1
5.2	5.0	3.9	---	---	5.5	5.5	4.3	---	---
5.0	4.9	3.7	---	---	5.2	5.3	4.1	---	---
858.2	869.4	855.4	-11.2	+2.8	242.6	245.6	242.9	-3.0	-0.3

BE USED FOR ECONOMIC ASSISTANCE PROGRAMS

NONAGRICULTURAL WAGE AND SALARY EMPLOYMENT BY PLACE OF WORK

MARICOPA Jul.* 1985	MARICOPA Jun. 1985	MARICOPA Jul. 1984	MARICOPA Jun. to Jul.	MARICOPA 1984 to 1985	PIMA Jul.* 1985	PIMA Jun. 1985	PIMA Jul. 1984	PIMA Jun. to Jul.	PIMA 1984 to 1985
814.4	821.2	754.7	-6.8	+59.7	223.3	225.3	207.5	-2.0	+15.8
132.0	132.5	126.3	-0.5	+5.7	31.7	31.5	29.5	+0.2	+2.2
106.1	106.4	100.7	-0.3	+5.4	26.6	26.4	24.6	+0.2	+2.0
5.1	5.2	4.3	-0.1	+0.8					
11.2	11.3	10.5	-0.1	+0.7					
56.6	57.1	55.6	-0.5	+1.0					
33.2	32.8	30.3	+0.4	+2.9					
25.9	26.1	25.6	-0.2	+0.3	5.1	5.1	4.9	+0.0	+0.2
5.4	5.3	5.3	+0.1	+0.1					
2.9	2.9	3.0	+0.0	-0.1					
10.3	10.5	9.9	-0.2	+0.4					
7.3	7.4	7.4	-0.1	-0.1					
0.6	0.6	0.6	+0.0	+0.0	2.5	2.5	3.7	+0.0	-1.2
76.1	77.4	67.1	-1.3	+9.0	21.4	21.3	18.4	+0.1	+3.0
42.1	41.8	39.3	+0.3	+2.8	8.9	8.9	9.0	+0.0	-0.1
19.8	19.9	18.7	-0.1	+1.1	4.0	4.1	4.1	-0.1	-0.1
22.3	21.9	20.6	+0.4	+1.7	4.9	4.8	4.9	+0.1	+0.0
203.3	204.7	191.4	-1.4	+11.9	49.5	49.8	46.7	-0.3	+2.8
49.9	50.1	46.7	-0.2	+3.2	7.5	7.4	6.6	+0.1	+0.9
153.4	154.6	144.7	-1.2	+8.7	42.0	42.4	40.1	-0.4	+1.9
23.4	23.5	23.7	-0.1	-0.3	7.2	7.3	7.4	-0.1	-0.2
22.7	23.0	21.9	-0.3	+0.8	5.9	6.0	5.4	-0.1	+0.5
19.1	18.8	17.5	+0.3	+1.6	4.6	4.6	4.4	+0.0	+0.2
53.6	54.2	49.5	-0.6	+4.1	15.5	15.6	14.6	-0.1	+0.9
34.6	35.1	32.1	-0.5	+2.5	8.8	8.9	8.3	-0.1	+0.5
60.2	59.8	56.8	+0.4	+3.4	10.8	10.7	10.1	+0.1	+0.7
197.9	199.7	183.5	-1.8	+14.4	57.1	55.6	50.8	+1.5	+6.3
17.0	18.0	15.0	-1.0	+2.0	4.3	4.4	4.0	-0.1	+0.3
54.9	55.0	50.0	-0.1	+4.9	10.3	9.9	8.3	+0.4	+2.0
47.3	47.5	46.9	-0.2	+0.4	15.5	15.5	14.0	+0.0	+1.5
78.7	79.2	71.6	-0.5	+7.1	27.0	25.8	24.5	+1.2	+2.5
102.2	104.7	89.7	-2.5	+12.5	41.4	45.0	39.3	-3.6	+2.1

-- Prepared by Labor Market Information, Research and Analysis (CPS, 1/85)

NONMETROPOLITAN COUNTIES
LABOR FORCE AND EMPLOYMENT
July 1985

	Apache	Cochise	Coconino	Gila	Graham	Green-lee	La Paz
TOTAL CIVILIAN LABOR FORCE*.	16,200	27,795	37,225	12,425	7,300	2,125	4,375
Total Unemployment	3,600	2,350	4,825	1,475	850	425	675
Rate	22.2%	8.4%	13.0%	11.9%	11.6%	20.0%	15.4%
Rate (Seas. Adj.)**. . . .	19.9%	8.2%	11.8%	11.8%	12.3%	20.9%	-INA-
Total Employment	12,600	25,625	32,400	10,950	6,450	1,700	3,700

THE ABOVE LABOR FORCE STATISTICS SHOULD NOT BE USED FOR ECONOMIC ASSISTANCE PROGRAMS

	Apache	Cochise	Coconino	Gila	Graham	Green-lee	La Paz
TOTAL WAGE AND SALARY. . . .	14,625	22,800	33,500	9,750	4,450	1,775	2,400
Manufacturing.	775	1,875	2,600	1,275	150	50	75
Mining and Quarrying	25	175	50	1,650	50	650	0
Construction	950	1,375	1,625	425	150	100	75
Trans., Comm., & Pub. Util..	1,875	1,475	2,350	300	175	50	75
Trade.	1,350	5,000	7,975	1,925	1,325	300	825
Fin., Insur., & Real Estate.	275	625	750	225	150	25	75
Services and Miscellaneous .	4,500	3,000	8,900	1,800	775	100	625
Government	4,875	9,275	9,250	2,150	1,675	500	650

	Mohave	Navajo	Pinal	Santa Cruz	Yavapai	Yuma
TOTAL CIVILIAN LABOR FORCE*.	23,600	26,275	30,825	8,675	32,775	37,550
Total Unemployment	2,375	5,325	4,525	1,900	1,950	10,050
Rate	10.1%	20.3%	14.7%	21.9%	5.9%	26.8%
Rate (Seas. Adj.)**. . . .	10.2%	18.6%	13.7%	20.1%	6.1%	-INA-
Total Employment	21,225	20,950	26,300	6,775	30,825	27,500

THE ABOVE LABOR FORCE STATISTICS SHOULD NOT BE USED FOR ECONOMIC ASSISTANCE PROGRAMS

	Mohave	Navajo	Pinal	Santa Cruz	Yavapai	Yuma
TOTAL WAGE AND SALARY. . . .	17,775	18,100	24,675	7,500	20,075	22,100
Manufacturing.	2,400	1,875	3,125	925	2,400	1,350
Mining and Quarrying	300	900	3,625	0	625	75
Construction	1,550	925	1,125	300	1,975	2,025
Trans., Comm., & Pub. Util..	1,100	1,600	1,150	550	875	900
Trade.	5,175	3,425	4,475	3,000	5,225	6,725
Fin., Insur., & Real Estate.	875	375	675	250	800	850
Services and Miscellaneous .	3,575	5,400	2,800	1,200	4,175	4,225
Government	2,800	3,600	7,700	1,275	4,000	5,950

*Adjusted to the Current Population Survey (CPS) to reflect place of residence.
**Seasonal adjustment not applicable for economic assistance programs.

NOTE--Series for Yuma and La Paz counties start January 1983. Data are not comparable to any past series.

Prepared in conjunction with the U.S. Department of Labor, Bureau of Labor Statistics.

ARIZONA LABOR FORCE AND EMPLOYMENT FOR ECONOMIC ASSISTANCE PROGRAMS
July 1985

County	Civilian Labor Force	Employment	Unemployment	Rate
Statewide	1,429,356	1,327,902	101,454	7.1%
Apache	16,178	12,591	3,587	22.2
Cochise	27,959	25,635	2,324	8.3
Coconino	37,186	32,385	4,801	12.9
Gila	12,423	10,949	1,474	11.9
Graham	7,300	6,448	852	11.7
Greenlee	2,119	1,688	431	20.3
La Paz	4,356	3,712	644	14.8
Maricopa	905,064	858,184	46,880	5.2
Mohave	23,592	21,233	2,359	10.0
Navajo	26,235	20,941	5,294	20.2
Pima	256,556	242,727	13,829	5.4
Pinal	30,802	26,312	4,490	14.6
Santa Cruz	8,665	6,779	1,886	21.8
Yavapai	32,771	30,823	1,948	5.9
Yuma	38,150	27,495	10,655	27.9

These figures are the only official BLS labor statistics to be used for revenue sharing purposes. They are not designed to be used as economic indicators. Note: Series for Yuma and La Paz counties start January 1983. Data are not comparable to any past series.

ESTIMATED HOURS AND EARNINGS OF PRODUCTION WORKERS IN SELECTED INDUSTRIES IN ARIZONA
July 1985

INDUSTRY	AVERAGE WEEKLY EARNINGS			AVERAGE WEEKLY HOURS			AVG. HOURLY EARNINGS		
	JULY* 1985	JUNE 1985	JULY 1984	JULY* 1985	JUNE 1985	JULY 1984	JULY* 1985	JUNE 1985	JULY 1984
FOR THE STATE OF ARIZONA*									
Manufacturing	389.77	390.10	384.70	40.1	40.3	41.5	9.72	9.68	9.27
Aircraft & Missiles	INA	INA	INA	INA	INA	INA	INA	INA	INA
Food & Kindred Products	353.50	263.45	299.20	41.2	41.4	40.0	8.58	8.76	7.48
Primary Metals	484.22	493.92	493.28	38.8	39.2	40.4	12.48	12.60	12.21
Machinery	351.12	351.74	354.89	39.9	39.7	42.4	8.80	8.86	8.37
Copper Mining	573.36	561.31	549.84	41.7	41.6	40.4	13.72	13.48	13.61
Construction	423.40	417.84	432.03	35.7	35.5	36.8	11.86	11.77	11.74
Utilities	569.83	569.83	535.67	43.3	43.3	43.8	13.16	13.16	12.23
Retail Trade**	241.25	248.84	236.27	33.6	34.9	34.9	7.18	7.13	6.77
Wholesale Trade	342.98	345.96	359.33	36.8	37.2	39.4	9.32	9.30	9.12

* Preliminary

** Excludes eating and drinking places.

NOTE--These estimates are based on a sample of full and part-time production and related employees whose payroll and hours are reported for the pay period which includes the 12th of the month. Prepared in cooperation with the U.S. Department of Labor, Bureau of Labor Statistics.

--Prepared by Labor Market Information, Research and Analysis (1972 SIC, 1/84)

ARIZONA UNEMPLOYMENT INSURANCE ACTIVITIES - JUNE 1985

	June 1985	May 1985	June 1984	% Change From One Year Ago
Arizona Claimants Served*	31,970	27,528	30,652	+ 4.3%
Arizona Average Weeks Unemployed**	8.3	9.0	8.7	- 4.6%
Arizona Benefits Paid*	$ 8,889,619	$ 9,353,537	$ 9,449,184	- 5.9%
Arizona Trust Fund Balance	$295,410,671	$301,169,885	$206,595,202	+43.0%

*All Programs
**UI Only

EMPLOYER "CONTRIBUTION" RATE FOR UNEMPLOYMENT INSURANCE STATE-BY-STATE COMPARISONS

The following two tables report the latest estimates by State Employment Security Agencies (SESA) of their expected average tax rates for employer "contributions" to their Unemployment Insurance (UI) Trust Fund. The tables were issued to SESA administrators on July 10 in Unemployment Insurance Program letter No. 28-85.

Economic development research and planning professionals--both state and local--find these figures to be helpful, and sometimes essential, in formulating marketing initiatives and program designs. They afford state-by-state comparisons of projected UI costs for employers located in, or considering relocating into, a state.

The following definitions of terms will help to understand the tables:

Tax Base, usually called "taxable wage base," is the maximum amount of each employee's salary/wage that is subject to the UI tax. Federal law requires the tax to be levied on all earnings of insured workers up to $7,000, but most states have enacted larger tax bases.

Average Employer Contribution Rates, Taxable refers to the average tax rate that is levied against the tax-base portion of an employee's earnings.

Average Employer Contribution Rates, Total refers to the average tax rate that would apply if the tax were levied against total payroll. This artificial tax rate permits comparison of tax impact--"taxing effort"--among states with different taxable wage bases.

Table 1, "Average Employer Contribution Rates, by State, Calendar Years 1983-85" contains estimates for calendar years 1984 and 1985 and, for comparative purposes, actual rates for 1983. The "taxable" column for each year shows the average percent that taxes are of wages at or below the tax base. The "total" column for each year shows the artificial tax rate described above.

Table 2, "States Arrayed by Tax Rate Based on Total Wages," shows the relative taxing effort being accomplished by each state in 1985, using the artifical "total" tax rate as the basis for ranking the states. This table also reports the total owed the federal government from loans to states to fund their state benefits when their Trust Fund was exhausted by heavy claims loads during recessions since 1975.

SOURCE: U.S. Department of Labor/ETA/UIS, Office of Legislation and Actuarial Services, June, 1985.

TABLE 1

AVERAGE EMPLOYER CONTRIBUTION RATES, BY STATE, CALENDAR YEARS 1983-1984

STATE	TAX BASE $7,000 EXCEPT AS SHOWN	1985 ESTIMATED		1984 ESTIMATED		1983 ACTUAL	
		TAXABLE	TOTAL	TAXABLE	TOTAL	TAXABLE	TOTAL
TOTAL	$7,000	3.1	1.3	3.2	1.1	2.73	1.16
Alabama	$8,000 (1/83)	2.5	1.3	2.4	1.3	2.39	1.25
Alaska	$21,800 (1/85)	2.2	1.4	2.5	1.9	2.34	1.80
ARIZONA		1.8	0.6	1.9	0.7	1.05	0.39
Arkansas	$7,500 (1/83)	2.7	1.4	3.8	0.2	3.30	1.70
California		3.2	1.2	3.1	1.2	2.60	1.00
Colorado	$8,000 (1/84)	2.8	1.2	2.6	1.2	1.61	0.65
Connecticut	$7,100 (1/83)	2.7	1.0	2.7	0.1	2.44	0.91
Delaware	$8,000 (1/84)	3.5	1.2	3.5	1.2	3.50	1.10
Dist. of Columbia	$8,000 (1/83)	3.0	1.0	3.0	1.0	2.80	1.00
Florida		1.3	0.6	1.5	0.7	1.18	0.55
Georgia		1.7	0.8	1.7	0.7	1.50	0.70
Hawaii	$15,100 (1/85)	1.6	1.1	1.9	1.3	2.31	1.61
Idaho	$15,000 (1/85)	3.0	2.0	3.4	2.3	2.82	1.96
Illinois	$8,500 (1/85)	4.4	1.8	4.7	1.9	4.00	1.60
Indiana		2.5	1.0	2.4	1.0	3.16	1.28
Iowa	$11,200 (1/85)	3.4	1.8	3.4	1.9	2.92	1.55
Kansas	$8,000 (1/84)	2.7	1.3	2.9	1.4	3.51	1.50
Kentucky	$8,000 (1/82)	3.6	1.7	3.8	1.7	3.70	1.70
Louisiana		4.1	1.7	4.0	1.7	3.50	1.40
Maine		3.2	1.5	3.7	1.7	3.70	1.60
Maryland		3.3	1.0	3.4	1.1	1.69	0.55
Massachusetts		2.1	0.9	2.9	1.2	3.11	1.34
Michigan	$9,000 (1/85)	5.9	2.3	5.5	2.1	4.64	1.82
Minnesota	$10,300 (1/85)	2.6	1.2	2.8	1.3	2.50	1.20
Mississippi		3.0	1.4	2.8	1.4	2.00	1.90
Missouri	$8,000 (1/85)	2.5	0.9	2.6	0.9	2.73	1.00
Montana	$8,600 (1/85)	3.3	2.0	3.1	1.5	3.10	1.60
Nebraska		1.9	0.9	1.9	0.9	1.56	0.76
Nevada	$11,100 (1/85)	2.3	1.3	2.8	1.5	2.26	1.33
New Hampshire		1.4	0.6	1.6	0.7	1.68	0.76
New Jersey	$10,100 (1/85)	3.4	1.5	3.2	1.4	3.10	1.40
New Mexico	$10,000 (1/85)	2.1	1.2	2.1	1.2	1.69	0.93
New York		3.3	1.1	3.2	1.1	3.12	1.14
North Carolina	$8,700 (1/85)	2.7	1.4	2.6	1.4	1.70	0.80
North Dakota	$10,700 (1/85)	3.4	1.9	3.5	2.0	3.60	2.10
Ohio	$8,000 (1/85)	4.2	1.4	4.2	1.4	3.49	1.10
Oklahoma		2.3	1.0	2.2	0.9	1.80	0.70
Oregon	$13,000 (1/84)	3.1	1.9	3.1	1.9	3.08	1.89
Pennsylvania	$8,000 (1/84)	5.3	2.2	5.3	2.3	5.28	2.13
Puerto Rico		5.4	3.1	3.0	3.0	2.95	2.95
Rhode Island	$10,600 (1/85)	4.1	2.3	4.1	2.3	4.10	2.27
South Carolina		2.1	1.0	2.1	1.0	1.98	0.95
South Dakota		1.4	0.7	1.8	0.9	1.80	0.80
Tennessee		2.4	1.0	3.2	1.4	3.07	1.41
Texas		1.5	0.6	1.6	0.6	0.90	0.40
Utah	$12,100 (1/85)	2.5	1.6	3.2	2.0	3.10	1.88
Vermont	$8,000 (1/83)	4.4	2.1	3.4	1.7	3.10	1.60
Virginia		1.8	0.7	2.5	1.1	2.20	1.00
Virgin Islands	$14,000 (1/85)	3.9	3.1	3.4	2.0	3.40	2.05
Washington	$10,000 (1/85)	4.1	2.0	3.3	1.9	3.00	1.70
West Virginia	$8,000 (1/82)	4.6	2.0	4.5	2.0	4.36	1.99
Wisconsin	$9,500 (1/84)	4.6	2.5	4.6	2.2	2.95	1.34
Wyoming	$9,500 (1/85)	3.7	1.8	3.8	1.9	3.50	1.70

NOTE: State Estimated and Actual Rates were furnished by State Employment Security Agencies.

SOURCE: U.S. Department of Labor/ETA/UIS, Office of Legislation and Actuarial Services; June, 1985.

TABLE 2

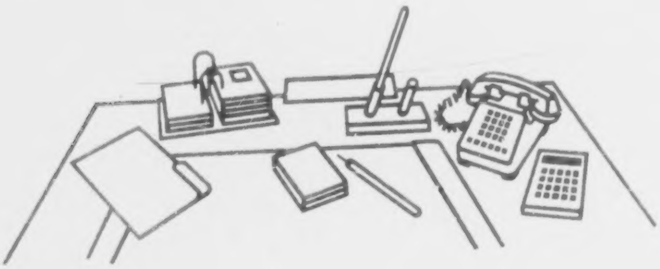
STATES ARRAYED BY TAX RATE BASED ON TOTAL WAGES

STATE NAMES	TAX RATE $7,000 EXCEPT AS SHOWN	1985 AVERAGE TAX RATE TAXABLE	TOTAL	5-31-85 LOANS OUTSTANDING (MILLIONS)
Puerto Rico		5.4	3.1	$27.3
Virgin Islands	$14,000	3.9	3.1	$3.7
Wisconsin	$9,500	4.6	2.5	$388.8
Michigan	$9,000	5.9	2.3	$1,320.7
Rhode Island	$10,600	4.1	2.3	
Pennsylvania	$8,000	5.3	2.2	$1,475.1
Vermont	$8,000	4.4	2.1	$13.6
Idaho	$15,000	3.0	2.0	
Montana	$8,600	3.3	2.0	$17.4
Washington	$10,000	4.1	2.0	
West Virginia	$8,000	4.6	2.0	$303.0
North Dakota	$10,700	3.4	1.9	$9.3
Oregon	$13,000	3.1	1.9	
Illinois	$8,500	4.4	1.8	$1,206.7
Iowa	$11,200	3.4	1.8	
Wyoming	$9,500	3.7	1.8	
Kentucky	$8,000	3.6	1.7	
Louisiana		4.1	1.7	$471.5
Utah	$12,100	2.5	1.6	
Maine		3.2	1.5	
New Jersey	$10,100	3.4	1.5	$232.5
Alaska	$21,800	2.2	1.4	
Arkansas	$7,500	2.7	1.4	
Mississippi		3.0	1.4	
North Carolina	$8,700	2.7	1.4	
Ohio	$8,000	4.2	1.4	$1,052.7
Alabama	$8,000	2.5	1.3	
Kansas	$8,000	2.7	1.3	
Nevada	$11,100	2.3	1.3	
UNITED STATES		3.1	1.3	$6,867.9
California		3.2	1.2	
Colorado	$8,000	2.8	1.2	
Delaware	$8,000	3.5	1.2	
Minnesota	$10,300	2.6	1.2	$128.9
Hawaii	$15,100	1.6	1.1	
New York		3.3	1.1	
Connecticut	$7,100	2.7	1.0	$147.5
Dist. of Columbia	$8,000	3.0	1.0	$13.3
Indiana		2.5	1.0	
Maryland		3.3	1.0	
Oklahoma		2.3	1.0	
South Carolina		2.1	1.0	
Tennessee		2.4	1.0	
Massachusetts		2.1	0.9	
Missouri	$8,000	2.5	0.9	
Nebraska		1.9	0.9	
Georgia		1.7	0.8	
South Dakota		1.4	0.7	
Virginia		1.8	0.7	
ARIZONA		1.8	0.6	
Florida		1.3	0.6	
New Hampshire		1.4	0.6	
Texas		1.5	0.6	$55.9

SOURCE: U.S. Department of Labor/ETA/UIS, Office of Legislation and Actuarial Services; June, 1985.

"New Developments" is featured each month as a service to employers and job seekers. It is a compilation of public announcements of the more significant new construction, grand openings, major hirings and layoffs, and other employer events that have special significance for Arizona labor markets. The announcements are paraphrased and otherwise edited from articles published in newspapers and other periodicals from throughout the state. "New Developments" are limited to space available, and no attempt is made to compile an exhaustive list of all such events that have occurred during the month.

SERVICES - Phoenix has experienced the highest annual percentage of office employment growth since the end of the 1982 recession. It had a 4.49 percent annual growth rate in office employment during this period, followed by Dallas at 3.75 percent and Atlanta at 3.12 percent, according to a 26-city study completed by Colliers International Property Consultants. The Colliers Office Worker/Employment Growth Rate measures which markets are growing fastest in relation to their own base. According to C. Steward Forbes, president of Colliers USA, "As employment grows, there is increased demand for new office space. This past year was the best ever for the Phoenix economy and that has carried over into 1985." Other cities leading the Colliers study on percentage office employment growth rate are Miami (3.04 percent), Columbia, SC (2.60 percent), Kansas City (2.53 percent), Seattle (2.13 percent), and Minneapolis (2.13 percent).



Personal computers have become an intrinsic part of educational institutions nationwide. Surprisingly, some educational users have more personal computers than many large corporations. For example, the Macomb Intermediate School District in Michigan has more personal computers than the 10th company on the InfoWorld 100 corporate list. Likewise, Virginia Polytechnic Institute and Los Angeles City Schools would rank among the top 22 companies.

HOW THE TOP 25 EDUCATIONAL USERS RANK
BY INSTALLED BASE OF PERSONAL COMPUTERS

1.	Macomb (Michigan) Intermediate School District	5,994
2.	Virginia Polytechnic Institute	4,100
3.	Los Angeles City Schools	3,785
4.	Clarkson University	3,502
5.	Columbia University-Academic Department	3,198
6.	Drexel University-Administration	3,109
7.	Georgia Institute of Technology	2,519
8.	Stanford University	2,500
9.	Arizona State University	2,023
10.	University of Michigan-Academic/Research	2,006
11.	Stevens Institute of Technology	1,999
12.	University of California	1,998
13.	Massachusetts Institute of Technology	1,700
14.	Maricopa (Arizona) Community College District	1,599
15.	Utah State Data Processing Division	1,553
16.	Brown University	1,501
17.	Dartmouth College	1,499
18.	Brigham Young University	1,390
19.	San Diego City Schools	1,369
20.	Harvard University	1,218
21.	Dallas County (Texas) Community College	1,098
22.	University of Iowa	1,025
23.	Jefferson County (Kentucky) Board of Education	1,019
24.	University of North Carolina	1,014
25.	Triangle University (North Carolina) Computation Center	1,010

LAYOFFS - Greyhound Lines announced August 23 that they will lay off 219 Phoenix employees and also move their national charter-bus operations from Phoenix to West Des Moines, Iowa. This announcement was the first indication of how the nationwide "cutback program" announced August 8 would impact upon Phoenix employees. This cutback was announced, and now followed through with, due to declining ridership on Greyhound Lines. In Phoenix, 87 of the company's 180 corporate headquarter employees, most of them managers, will be laid off by September 13. Don Behnke, a spokesman for Greyhound Corp., said it would be "more economical" for the company to recruit locally (in Des Moines) than it would be to transfer the Phoenix employees.

CONSTRUCTION - Commercial lenders in the Valley are becoming more choosy in their office-space lending activity this year. This is largely due to office vacancy rates being high here in the Valley, just as they are nationally. "Generally the market is moving into an overbuilt situation pretty quickly," said Bob Thompson, vice president of commercial real estate lending for Arizona Bank. "And we tend to think vacancy rates will continue to move up over the next two years." Even Southwest Savings and Loan, which as recently as six months ago was aggressively financing speculative--or vacant--office space, is altering its once bullish outlook. Mel Reese, their senior vice president of real estate lending, says, "Today we're considerably more cautious than we were six to eight months ago. We have not been dealing in any major high-rise or mid-rise buildings lately, and in almost all cases we'd like to see considerable pre-leasing commitments on projects we finance." Thompson, from Arizona Bank, echoes these feelings when he says, "In the market we're moving into (Arizona Bank) wants to do business with people with proven track records, excellent financial capacity, and better locations. We're not reaching to do projects with people we do not know, in secondary locations." He adds, however, that, "I think in first-class locations, there are still some good loans to be made. And there are three factors Arizona Bank believes are more important now than before: location, the borrower's financial capacity, and the borrower's expertise." One thing that appears to be certain is that office-space lending activity will slow down this year. "It has got to," concludes Thompson at Arizona Bank.

A joint plan for the beautification of East McDowell Road was announced in late July by the East McDowell Civic Association (EMCA) and the city of Phoenix. The groups have donated $4,500 to the Arizona State University School of Architecture to develop a streetscape design. The results will be presented on September 20. Graduate students from the college will document the area's needs, and a final scheme will be developed by architectural experts and city engineers.

EMCA was founded in 1979 as a non-profit organization to encourage beautification, zoning, and development of the McDowell area from Central Avenue to 52nd Street, between Virginia and the Papago Freeway.

Red Mountain Ranch Inc., a wholly-owned subsidiary of Mobil Corp., has begun construction on its 820-acre, master-planned community in northeast Mesa. The development, known as Red Mountain Ranch, is Mobil's first project in Arizona. It is located two miles from Falcon Field and one mile from the new corporate headquarters of Hughes Helicopters. The area has been zoned for approximately 2,500 residences, according to Carl Schenk, president of Red Mountain Ranch Inc. The site also includes room for a hotel, restaurants, specialty shops, a golf course, and a fully integrated 180-acre business park.

Construction began August 22 on The Pointe at South Mountain, a $55 million resort to be located at Baseline Road and Interstate 10. The Resort will be the hub of a 700-acre mixed-use project by Gosnell Development, which created the other two "Pointe" resort communities in Phoenix. This third, new Pointe is expected to be Arizona's largest resort, employing about 2,300 people with an annual payroll of $24.8 million.

This first phase of The Pointe at South Mountain, scheduled for completion in December, will feature 632 suites, five restaurants, and a convention center Existing development at the site includes two Pointe-owned restaurants, 350 homes, and more than 1.5 million square feet of occupied office and warehouse space. Future phases are expected to add 333 more suites and four more restaurants.

Construction was begun recently on Hayden Park, a 112,807 square-foot office park at Shea Boulevard and Hayden Road in Scottsdale. The completed complex will include 10 buildings with one-story structures ranging in size from 6,750 square feet to 15,490 square feet. Scheduled for completion in March 1986, the development will feature contemporary buildings with copper-roof sections and landscaped courtyards.

A total of 14,849 homes were sold in Phoenix during the second quarter of this year, according to an Arizona State University College of Business analysis. That number represents a 37 percent increase over the first quarter of 1985.

Following a slow first quarter, new home sales included more than 2,500 single-family homes and about 900 townhouses and condominiums.

The median price of a new single-family home was about $81,000, 7 percent higher than the second quarter last year, and $8,500 more than the median resale price. The median price of new townhouses and condominiums was about $64,000, a 3 percent decline from the previous year.

A 49,000 square-foot assembly and office facility for Foton Production Automation will be built at the Williams Field Business Park near I-10 and Williams Field Road in Chandler. Foton is an international manufacturer of computer-controlled assembly equipment for the semiconductor industry. The $3 million building is scheduled for completion late this year, and is designed so that an equal amount of space can be added in three to five years.

The Koll Company has started development on the final phase of the Koll Business Center-Northwest at Dunlap and 25th Avenue. Phase IV will see the construction of a three-story garden office building totaling 110,000 square feet. Upon completion, the 30-acre business park will house about 130 companies employing 1,500 people.

Biltmore Financial Center Associates has purchased the ARCO service station at the northwest corner of 24th Street and Camelback Road for $1 million. The property is adjacent to the Biltmore Financial Center, currently under construction. The station will be removed from the site, clearing the way for more open space and plaza areas in the complex. Plans also call for widening the intersection to provide easier access to the center, the first phase of which is expected to be completed in September.

Construction began in August on a 133-acre business park at the southeast corner of McKellips and Greenfield Roads in Mesa. The developers, Mesa Commerce Center Developers, will supervise the master planning, off-site construction, and landscaping of the project; then sell parcels to individual developers beginning in November. David Eaton, a partner in the project, said he expects the park to include office, industrial, and high-tech users. Once interior improvements have been completed, the project will have an estimated value of $19 million.

Kaiser Development Co. broke ground at the beginning of July on the first structure of First Kaiser Center, a 41-acre commercial/industrial, hotel/restaurant complex. Located at the northwest corner of I-10 and the Hohokam Freeway, the $100 million master-planned development is scheduled for occupancy next February. The first structure will be a four-story, 80,000 square-foot brick and glass building.

Construction begins this month on the 250-room Phoenix Airport Hilton Hotel in the Phoenix Airport Center, a 60-acre business park at University Drive and the Hohokam Freeway. Completion of the $21 million business resort is scheduled for fall 1985. The Phoenix Airport Center is expected to include more than a million square feet of office, industrial, and hotel space when fully developed.

AMERICAN INDIAN STUDENTS - Arizona State University (ASU) held a reception on July 19 commemorating the passage of Legislative Bill 2112. Leaders from tribes and Indian organizations gathered from around the state. This legislation allows a student from a recognized tribe whose reservation land lies in Arizona and extends into another state to be classified as an in-state student. ASU President, Dr. Russell Nelson, commented that the make-up of the university student body should reflect the make-up of the area's minority populations. Some special efforts are being taken to address this. Passage of the 2112 Bill was a benefit to American Indian students. Also, American Indian freshmen benefitted from an orientation designed especially for them on August 13. ASU is also making some efforts to reach out to minority populations in general. Dr. Miguel Montiel, assistant vice-president for Academic Affairs, is in this new position to advise on academic issues related to minority under-representation. In addition, a 15 member advisory committee will be named to address minority issues.

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10/21/85
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ARIZONA LABOR MARKET INFORMATION NEWSLETTER

Vol. IX No. 10
October 1985

Unemployment Rate

Seasonally Adjusted
August*

ARIZONA	6.5%
Maricopa Co.	5.0%
Pima Co.	5.1%
UNITED STATES	7.0%

Consumer Price Index

National-July
1967 - Base Year

Wage Earner/Clerical Worker -	319.1
% Chg. Yr. Ago	3.8
All Urban -	322.8
% Chg. Yr. Ago	3.6

Phoenix-2nd Qtr.
1977 - Base Year

All Urban -	190.8
% Chg. Yr. Ago	6.0

Producer Price Index

National-August*
1967 - Base Year

All Commodities	307.2
% Chg. Yr. Ago	-1.1
Finished Goods	293.5
% Chg. Yr. Ago	0.8

* Preliminary

EDUCATION & TRAINING IN ARIZONA

Nancy Augustin and JoAnn H. Wilson, editors

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THE ROLE OF EDUCATION AND TRAINING IN JOB CREATION AND ECONOMIC DEVELOPMENT

When recruiting business into a community, whether through the expansion of an already established company or the relocation of companies into new areas, questions about the education and training system always arise. In a recent survey of corporate officers responsible for relocation and expansion projects, education was the only factor cited both as a primary draw to a new location and as a major reason not to locate in a specific area. No other factor played the dual role of both a magnet and a barrier to relocation efforts.

It is generally recognized that, for economic development, companies need a trained or trainable labor force from which to draw employees. Equally important to executives, however, is the local educational system which will teach the executives' own children. A strong system which demonstrates high test scores for all levels of schooling and community interest in education are very important draws to many companies. Competent teachers and a fine educational infrastructure are critical components to any town's economic development strategy.

To be competitive, communities must therefore focus attention on the elementary and secondary schools as well as the more traditional training arena of postsecondary institutions. Nor will the importance of the basic educational system decrease in the future. Most economists and educators predict that employees in the future will demand even higher skill levels and that job opportunities increasingly will favor the well-educated. Many experts also estimate that most adults will change careers six times during their worklife. Only a solid grounding in an ever-spiraling level of "rudimentary" knowledge will guarantee the basic flexibility necessary to cope with rapid technological change.

Rapid technological change also requires flexibile retraining with public institutions meeting the needs of adults through open entry, open exit competency-based programs. There is simply no reason dislocated workers or workers requiring upgrading of skills must wait for the beginning of a new semester to initiate training. Certainly, the skill centers operated by the community colleges provide a new model for meeting the needs of adult learners.

Most states view skill training as a part of economic development, but the strategy is generally limited to sweetening relocation packages with short-term, state subsidized training, usually called quick-start training. Only recently have states like Arizona, California, Texas, and North Carolina recognized that investment in human capital through all levels of education and training from kindergarten to universities are integral components of economic development; hence the development of research parks, partner programs with industry, and the funding of basic research at the universities.

"Investing in People," to use Nobel economist Theodore Schultz's term, is the most important economic investment our state can make. And Peter Drucker claims "the basic factor in an economy's development must be the rate of 'brain formation,' the rate at which a country produces people with imagination and vision, education, theoretical, and analytic skills."

States can foster human development efforts and therefore the job creation process in the following ways:

1. Inform students of the likely outcomes of education. Arizona and Florida are the only states to require the publishing and dissemination of placement rates of vocational training programs. Clearly, the information is helpful to students choosing to invest in technical training because they can begin to weigh the outcomes against the cost. The information is also useful to institutions as an indicator of their responsiveness to new occupational fields.

2. Use job training funds to encourage individuals to start their own business--a clear way to create new jobs. More than half of all new jobs generated in the past 10 years were generated by small businesses with 20 or fewer employees. Jobs also need not be limited to highly educated, wealthy individuals. The Women's Economics Development Council (WEDCO) in St. Paul, Minnesota provides assistance to low-income women starting their own business. In its first year of operation over 1,000 women have received help and 210 new businesses started operating. Sixty-seven percent of the women receiving help from WEDCO have incomes below $10,000. Clearly, we need to explore the use of JTPA funds and other training sources to provide technical assistance in starting small businesses or to allow individuals to be trained in entrepreneurship.

3. Encourage innovative use of Job Service information and Job Service resources. Arizona has begun to implement innovative programs through T.V. programming and community outreach, but more can be done.

4. Recognize the barriers to entry into jobs created through licensing rules. While requiring certain skills or competencies for specific occupations may be reasonable, many rules are structured to screen out people by requiring educational credentials such as degrees rather than competencies. The use of associate-teachers' certification to allow math and science teachers into schools is a good example of reviewing credentials rather than competencies.

5. Review state policies which create disincentives to establishing new businesses because of high taxes, insurance requirements, or other rules. Again, many of these rules may be necessary, but we should review all policies with the recognition that some policies are counter-productive to job creation and economic development.

6. Finally, the state must provide financial assistance to low-income individuals to enable them to invest in their own development. Subsidized loans will provide access to education and training programs at upper levels of education and ensure broad-based economic development. But some 500,000 adults in this state are 16 or older and neither have a high school diploma nor are enrolled in school. For many, basic skills and literacy training are necessary and should be available free or at very low cost. For others, refresher courses and encouragements to the GED exam may be all that are necessary to help them on their way to full, productive employment and the flexibility which will be needed into the next century.

Kathryn Hyer
Department of Commerce

UNIVERSITY OF ARIZONA OFFERS CAREER DEVELOPMENT INSTRUCTION TO PRECOLLEGE PROGRAM STUDENTS

The University of Arizona has, for the past five years, been conducting a summer precollege program for gifted and talented high school students who have completed their junior year of high school. These students may receive up to six college credits, which are applicable upon their later enrollment at the college of their choice. Approximately 100 students have participated in each of the 10 sessions held since the program's inception.

Eligibility for the program requires that students have a high school grade point average of at least 3.25 on a 4 point scale, and be recommended by their school principal and a teacher or counselor. Minority students are encouraged to apply, and some scholarship money is available to Arizona residents.

Students pay $51.00 per credit hour, plus $60.00 in program and campus fees. University dormitory fees are approximately $150.00. Dorm residence is available and encouraged for all students. Undergraduate counselors are housed with them, and there are many social events provided for the students. The social interaction is considered an important part of the program experience.

The program, under the direction of Dr. Peggy Douglas of the College of Education, is designed to introduce the students to the college experience, expose them to the resources of the University of Arizona, and provide them with a valuable educational opportunity.

Students are offered choices from more than 50 university courses, including lab sciences, mathematics, engineering, computer study, business and public administration, humanities, social sciences, languages, philosophy, political science, psychology, art, dance, drama, music, and speech. They attend these classes along with regular university students. They are also invited to attend various cultural activities and are offered many extracurricular educational opportunities, including seminars about time management, study skills, library skills, and career development.

Career development seminars are available through the Department of Counseling and Guidance. Talented and gifted students may experience special difficulties in career planning. They are confronted with a wide array of career opportunities, and may be overwhelmed by the numerous career paths open to them and the pressures to decide.

The theme of this year's career seminars was "Career Development: Have It Your Way." The seminars stressed the concept of career development as a major life task that can allow a person to express his or her unique individuality in a positive, constructive, growth-enhancing way. It was also stressed that a career-development path which expresses each person's unique combination of values, interests, and aptitudes is a primary means of achieving satisfaction with life--affecting family, social life, health, psychological growth, and retirement. Also emphasized was the idea that career development is a continuous, lifelong process, ideally based on a continuing awareness of self and the world of work.

The students completed a values questionnaire, which enabled them to personally consider and list the relative importance of each of 50 career-related values.

Aptitudes were discussed in terms of school grades, aptitude test batteries, and college entrance examinations as providers of useful information concerning unique patterns of strengths and weaknesses.

The Strong-Campbell Interest Inventory was explained and administered to the students, and they were shown how to compare their interests to those of satisfied workers in the various occupations listed by the inventory. Exploration of occupations and career fields whose workers show interests similar to the students was presented as a means of narrowing the scope of the world of work in order to better identify those areas most congruent with each student's current interests.

The students were instructed concerning sources of information about the world of work, including training and educational requirements of various occupations, and how this information can be usefully combined with knowledge of self to determine the most likely paths to career satisfaction.

The use of training and educational institution catalogues was discussed, stressing the need to relate values, aptitudes, interests, goals, and financial postion to the requirements, costs, and services of an institution.

Values, interests, and even aptitudes change with maturation and experience. This was a surprising idea for many of the students. But they learned that, although each career-related educational and vocational decision should be seriously considered, and based on the most complete knowledge of self and the world of work available at the time, no decision need be considered irrevocable.

Bruce G. Karam
University of Arizona

THE BUSINESS AND EDUCATION PARTNERSHIP . . . KEEPING PACE WITH CHANGE

The 20th century has brought powerful new tools and an abundance of scientific and analytical information that will either enhance our progress or our insanity. As we prepare the next generation to become productive citizens to lead this nation, it is important that we build new alliances to improve the transition from school to work, to provide effective retraining as new jobs are created, and to satisfy a human need for growth. The current wave of interest in the business and education partnership is one form of that needed networking.

The working relationship between people who work in business and those who work in education is not new, but it is definitely changing to keep pace with current demands and shortcomings. The "silent," "limited" partnerships of the '50s, '60s, and '70s have been enhanced to allow for more "active" teamwork in the '80s. The advisory councils found at schools today are offering more than advice. They are taking a critical look at the curriculum to determine if students are being prepared for a changing job market. The talents of educators are being utilized to upgrade training in business and industry. The process, simply put, is resource sharing.

Arizona has been recognized frequently as leading the nation in collaborative efforts. It had strong support for student vocational training and placement in the '60s and was the first state to actively plan and finance career education from kindergarten through adult learners in the '70s. Today, scores of new, collaborative programs are being credited for the new wave of educational enrichment in both business and education.

Arizona can also claim the longest running partnership development organization in the United States. The Arizona Business-Industry-Education Council (ABIEC) was created in 1960, under the leadership of former Governor and U.S. Senator Paul Fannin. For 25 years, this membership-supported organization has brought people and ideas together to form lasting relationships and programs among hundreds of Arizona firms and elementary, secondary, and post-secondary schools.

It is important to note that the process of collaboration is generally more important than the project. The strong, impatient personalities that bring an idea to the round table are the same personalities that operate a fragile relationship. According to the President's Task Force on Private Sector Initiatives, more than half of the nation's partnerships are discontinued within the first year. The essential ingredients for success must include good listening skills; clear understanding of needs and expectations; and a compromising, patient, but positive outlook. This is a business of people; if the partnerships are to withstand the tests of time and high expectations, the leadership must be carefully selected for the purpose of facilitation.

There are some recognizable benefits to the current wave of public school and private interactions. One that is not frequently touted, but is of the utmost importance, is the possibility that mutual understanding may create political allies for greater long-range gain. The power of a superintendent is magnified when supported by a chamber of commerce president and a bank executive. Additionally, the business argument for downtown development is enhanced with support of the superintendent on the value of a good education image for business recruitment. One cannot support the other, however, until a commitment is made to take the time to listen and get involved in the problem-solving process.

A second benefit is more direct but less significant. Few superintendents are willing to even guess at the financial gain offered by corporations. The total estimate for all corporate giving to all public schools nationally is between $30 and $50 million, according to Michael Timpane, Columbia University. Any number within this range is still less than half of 1 percent of total expenditures for elementary and secondary education. Charitable giving from all businesses is less than 3 percent of total contributions and corporate taxes account for about 5 percent of federal expenditures. It would appear that corporate giving has room to grow and all giving requires careful management to have a lasting effect. Educational foundations are becoming a popular method to help recruit and manage corporate donations and in-kind services. The effectiveness of these foundations is a matter of controversial interest.

A third return to the partnership is increased morale. This intangible reward is difficult to measure, but one that can be more valuable than hard cash. In times of changing values, questionable self-worth, and critical reports on both education and business, morale may be the single element to bring positive results. Most workers, whether they be in business or education, cling to the slightest bit of praise or positive recognition. Take the example of the assembly-line worker who was ready to leave his repetitious "drudgery" until a bright-eyed child thought the employee's work to be "fascinating." Or the teacher, who after spending eight weeks in a summer business position, decided that her teaching profession was far more rewarding, even considering the one-third less pay. Teacher and business professionals are no different when it comes to job satisfaction--they both want respect, some degree of control, and freedom to explore, to create, and to grow.

Of course, the ultimate benefit is that students--of all ages--get a head start on life after school when they have been trained with "specialists" from both sides of the community. This is the only surefire method to improve our businesses, increase productivity, and prepare our country for worldwide competition and security. Is it worth the effort? You bet it is.

Unlike most school-involved programs, the partnership has met with national support and interest rather than government funding. President Reagan, recognizing the growing importance of private sector involvement in education, proclaimed the school year 1983-84 as a "National Year of Partnerships in Education" to acknowledge efforts and encourage new support. As a follow-up, the U.S. Department of Education conducted a national survey to determine the number and types of programs. Of those responding, 22 percent reported one or more partnerships in their districts and 25 percent indicated interest in starting programs. Over two-thirds of the districts with partnership programs indicated their efforts had increased over the last three years. Beth Packard, Arizona Center for Vocational Education, discovered similar results in a recent study of partnership programs in Arizona vocational programs. A recent survey conducted by the Phoenix Chamber of Commerce indicates that approximately 25 percent of its business members and 50 percent of school officials are involved in the partnership process and an equal number would like extended involvement.

There is a new ray of cooperative need appearing on the horizon. As predicted by David Snyder and Gregg Edwards in Future Forces, education will be America's largest industry by 1990. They base their prediction on four factors: 1) the baby-boom echo, with rising birth rates in the late '70s, is increasing elementary school enrollments; 2) workplace technology will require a minimum of 20 million employees to undergo formal training; 3) between 15 and 20 million displaced workers will require retraining; and 4) between five and 10 million more baby-boomers will also return to school to gain skills that will enhance their chances for promotions or career shifts.

The National Science Foundation has determined that for every dollar spent on automation, a dollar is spent on training. The American Society for Training and Development estimates that more than $40 billion is spent yearly in training programs, with approximately 15 cents budgeted for every dollar spent in automation. If Snyder and Edwards' predictions are correct (and they do not even mention expenditures for remedial training), adult vocational training and human resource development could grow into the largest element of the nation's education budget. This dramatic increase in the the demand for training programs, personnel, and cost-effective methods will have a direct impact on public and private schools. The requirements for worker retraining and adult education could be more costly than the national expenditures for automation. The high cost and the shortage of teachers will shift electronic teaching aids to education. National policies will be developed and education will once again be a major topic for political debate.

Friendships create partnerships and vice versa. As Paul Briggs, visiting professor at Arizona State University, once said, "We are all in the same boat, so we might as well row together." For those of you who are venturing into a partnership, carry a well-planned map and enjoy the trip! If we do it right, there is smooth and productive sailing ahead.

Janet Beauchamp
Arizona Business-Industry-
Education Council, Inc.

PARTNERSHIPS WITH BUSINESS: BOON TO COLLEGES--OR THREAT?

That higher education should serve the needs of society has never been debated. Our earliest institutions, including Harvard University and the College of William and Mary, were established to provide for the education of the clerical and lay leaders of their respective colonies. Since that time, higher education has come to serve the needs of society more broadly--educating, among many others, teachers, lawyers, doctors, artists, and businessmen; conducting pure and applied research; and providing public service to the community, state, and nation. For quite some time, colleges and universities were allowed to interpret and address societal needs with a minimum of coordination and little interference from external agencies and organizations. The fact that that has all changed has been the subject of much debate.

For the past 20 years, we in higher education have lamented the intrusion of the legislature, the state higher-education board, the accrediting association, and the federal government into our operations. We have lamented the demographic changes that eclipsed our brief "golden age." What we have not lamented--and I propose that we do so--is our increasingly singular attention to the business community.

In response to supervision by federal and state agencies, we have fought for our autonomy; arguing, perhaps persuasively, that we need to maintain internal control over our academic programs and the flexibility to meet changing conditions. We have not taken it lying down. We have perhaps been more successful in responding to the reality of a decreasing college-age population by inviting (probably to the enhancement of the institution) new participants and then creating new programs and services to meet their needs. However, we have not questioned or resisted increasing attention to the needs of business and industry.

Thorstein Veblen complained almost 100 years ago that higher education was a handmaiden to the capitalist system and served largely as a manpower-selection device. Colleges and universities have always educated men and women for their roles (including occupational) in society. But the institutions have had--and continue to have--other goals, as well.

They have sought to teach students to react and think critically; to understand themselves and their relation to society; to understand history, science and the cultures of other peoples; to communicate effectively; and to be good citizens. They have also sought to challenge the values of students and society--sometimes to change, but always to promote social- and self-awareness. Put simply, in addition to career education, colleges and universities have sought to extend the frontiers of knowledge for its own sake, to generally and liberally educate their students, and to serve society.

Those goals are still sought, but increasingly each of them is being defined in terms of business and industry, often as a result of demographic and financial pressures and demands for "accountability." In our attempts to demonstrate our accountability to state agencies, to market our programs to potential students, and to garner the corporate contributions that we feel will help us maintain our flexibility and integrity, we may have escaped one master only to run to another. Directly and indirectly we have always served the business community, and I am not suggesting we should cease doing so. However, increased direct service to, and reliance on, business could erode our autonomy.

To what extent we in higher education can provide the personnel, research, and services desired by business is a popular topic today. It is hard to read the newsletter or journal of a higher-education association, attend a conference, scan an admissions brochure or fund-raising letter without reading about "linkages" with business and industry, placement in corporate jobs, or the importance of direct and indirect (matching) contributions to higher education. New academic programs are approved and existing ones reviewed in relation to the marketability of graduates and the need for a given program in the business community. At conferences, presentations are made by institutions that have forged agreements and contracts with business and industry and are poised to respond with alacrity to changing market conditions; corporate fund raisers are in demand; even undergraduates rate themselves according to starting salaries in their chosen careers. Corporate management practices, once eschewed on campuses as inappropriate to a collegial environment, are embraced ever more quickly. (A word to readers who would buy next year's equivalent of In Search of Excellence or The One-Minute Manager: Beware trampling by zealous college administrators!)

The reasons for this embrace of business and industry and of corporate practices by administrators, faculty members, and students alike are understandable. First, colleges and universities have for some time been facing pressure from governors, legislators, and state agencies to justify their academic programs and service offerings. Institutions are accountable to state agencies in particular and to the public in general. Programs in which the number of interested students has decreased or job opportunities are scarce don't fare well in program reviews. If institutions can claim that there is a market for their finished products (graduates) they are allowed to continue to produce such a product line. Put in non-business terminology, jobs justify programs and simplify the accountability issue.

Second, the economy is changing. According to John Naisbitt's Megatrends, we are in the process of evolving into an information-based society, shedding our industrial skins. It is a time of change, and each of our institutions will change to some degree in response. With a change in our economic base, concern for careers and employment is heightened. There is an immediate need to train the "high tech" technician, and there are few states and institutions that are not jumping on the bandwagon--creating their own high-tech centers or following the example of North Carolina in placing their educational systems at the service of corporations and the economic development of business and industry. Industries are turning to faculty members for the development of new processes, software, and inventions, and many faculty members are, in turn, incorporating to protect the results of their research.

Third, students today are different from students 20 years ago. Gone, to a large extent (according to the results of Alexander Astin's annual research), is student interest in developing personal philosophies, in altruism, in the helping professions; instead, we have students with an almost unbridled interest in money, power, and material possessions. The "we" generation was succeeded by the "me" generation and then by the "gimme" generation. Societal change was the hallmark of the first, self-development was the hallmark of the second, and economic development is the hallmark of the latest. College students know what they are coming to college for--most often a job after graduation--and want to be certain to be able to get it; they have been known to sue if they don't. Some institutions have begun guaranteeing jobs, and if that doesn't put them in a direct service relationship with business and industry, I'm not certain what would.

Fourth, faculties have changed. They are less "families of scholars" and more collections of independent professionals who must conduct research and publish so as not to "perish." In order to finance that research, grants from business and industry--or their foundations--must be courted. It would be rash to say that faculty members are researching only what their corporate sponsors want, but much of what they are doing is defined in terms of the sponsors' needs. The current professorial generation, removed from struggles for academic freedom, forget that the battle for it was waged so that faculty members might teach and pursue research in any area that expanded knowledge--of their disciplines in particular and of mankind in general. Celebrated academic-freedom cases at the turn of the century involved faculty members who embarrassed or insulted corporate sponsors of institutions. Have we forgotten so soon?

Possible results of this trend toward embracing corporations and their practices are varied and unsettling. General and liberal education may give way to narrow occupational training; teaching general skills for living may be replaced by teaching marketable entry-level skills. Decisions on academic programs may be made because of what "sells" to state legislators, students, and employers rather than what individuals and society need. Faculty members may become the indirect employees of corporations, dividing their loyalty between academe and the business world. And students, as consumers, may indirectly gain more control over their curriculum than professional educators have.

Despite such possibilities, we court the corporate sponsor who will employ our graduates (so we can justify programs), finance the research of our faculty members (so that they can jump the tenure hurdles), fill the coffers of our development offices (so that we have the funds to hire more business and engineering faculty members, among others). To many of us, the business and college partnerships of today are marriages made in heaven. After all, they offer quite some dowries. But in making those alliances, we risk becoming solely a mechanism for developing manpower for business and industry instead of a means for educating students so that they are prepared to exercise good judgment and are fit to lead our nation.

We as institutions also risk losing our role as critics of society as we become so entwined in the corporate complex. In our effort to justify programs and keep the state program-review officers off our backs, we risk losing sight of our responsibility to challenge the notions and values of our students and educate them broadly rather than simply train them for their first job.

As we turn to business and industry as our financial saviors, and as more and more of us become contract researchers and corporate training specialists, we should pause to ask: To what end will such devotion take us?

Peter Garland
Pennsylvania Department of Education

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THE CENTER FOR EXCELLENCE IN EDUCATION: NAU PUTS ARIZONA ON THE CUTTING EDGE OF A NATIONAL REFORM MOVEMENT

With the 1983 publication of A Nation at Risk: The Imperative for Educational Reform by the National Commission on Excellence, a tidal wave of criticism washed over America's schools. The country was stunned at the apparent infirmity of a system that had long been held as the world's standard of achievement in public education.

Other national studies and dozens of state reports soon confirmed what many teachers and school administrators had known for years; that sweeping changes were needed if the schools were to meet the ever-accelerating demands of preparing young people for life in the 21st century.

Teacher-preparation programs were cited by nearly all the studies as a weak link in the educational chain. Lack of rigor in both content and methodology courses, inadequate practice in the classroom, and a general failure of colleges of education to attract the best and the brightest to the profession were just a few of the problems pointed out by those who scrutinized the role of higher education in the overall erosion of quality in U.S. schools.

One concerned educator who carefully studied the reports was Eugene M. Hughes, president of Northern Arizona University (NAU). Because NAU's reputation rested largely upon the high quality of its College of Education, Hughes was quick to see a challenge in the criticism being leveled at the institutions preparing school personnel.

Hughes had been working with Arizona Superintendent of Public Instruction Carolyn Warner since 1979 to develop strategies for change. Both believed that an integrated, dynamic coalition of universities and colleges, the public schools, all levels of government, business and industry, teachers, parents, and students would be needed to solve the incredibly complex problem of redesigning the public education system.

The public outcry for reform that the flurry of studies had raised was unlikely to sustain itself indefinitely, so Hughes knew he must act quickly to translate his vision into action. In February 1984 he presented a proposal to the Arizona Board of Regents to replace the NAU College of Education with a Center for Excellence in Education.

The center would maintain the functions of the College of Education, but it would also be involved in a broad range of other educational activities with the public schools and communities throughout the state. It would form the nucleus of the dynamic, integrated system Hughes envisioned.

With the state legislature's allocation of $1 million to launch the project (in addition to the College of Education's normal budget), the nation's first Center for Excellence in Education became a reality on July 1, 1984.

The Center for Excellence was designed to address the criticism of teacher preparation programs by providing academic rigor equal to any other discipline, by eliminating redundancies in methods courses, by offering high-quality practical classroom experience for pre-service teachers, and by involving the entire university in teacher preparation.

To ensure that the center would maintain maximum flexibility and responsiveness to changes in the mercurial educational environment, a management structure was devised that eradicated the traditional college heirarchy within the center. Instead of having a department head for each subject taught, the center has five divisions under the direction of a university vice president and an executive director. Faculty are assigned to a division according to specific tasks performed at a particular time.

Called a "team/leadership matrix," the system has been used to assemble teams of specialists for the U.S. space program and is used extensively in the computer and electronics industries. To grasp how it functions in an academic setting, however, it is necessary to first understand the functions of the center's divisions.

The Division of Professional Programs is responsible for the on-campus academic programs that were the primary function of the old College of Education. In addition to continuing instruction, this division also is revising all its courses in terms of competencies, or specific skills to be mastered. This revision will identify skills common to all teaching situations and thereby eliminate many redundancies in methods courses.

The Division of Field-Based Programs extends the range of the center's influence by offering advanced degree programs in communities throughout the state where teachers would otherwise have no access to a university. The division offers coursework in 22 locations and has seven regional centers to coordinate its programs.

To ensure that the standards of excellence set at the main campus are maintained in the field, many courses are taught by NAU professors who fly to the sites. In addition, the university has invested in resource materials for libraries near each site and has helped develop computer systems to enable students to access virtually all the resources of the NAU library.

The center's third section, the Division of Educational Services, was created to enable the center to help improve public school instruction now, rather than waiting years for the impact of better-prepared teachers. It offers assistance to schools ranging from in-service programs on assertive discipline to complete revision of curriculum. The division responds to direct requests from local administrators. It has provided services to more than 100 schools in its first year of operation and has some 40 projects in progress.

The fourth part of the center is the Division of Research. This division conducts research about Arizona schools to provide direction to the other divisions. It also is responsible for faculty-development programs and has brought many of the nation's top educators to NAU, including former Education Secretary Terrel Bell.

Though it functions independently of the other four, the Arizona Center for Vocational Education is the center's fifth division. It operates under a close working relationship with the Arizona Department of Education to conduct research, develop curricula, and provide career development opportunities for vocational educators throughout the state. One of its many accomplishments has been the creation of a mobile computer facility that can be taken to any school to familiarize faculty with the latest in electronic instructional aids.

After only a year in existence, the influence of the Center for Excellence is being felt throughout Arizona and across the nation. Colleges of education are inquiring about its programs in increasing numbers, and at least three similar centers are being planned in other states.

A major study of higher education recently completed at George Mason University concluded that the need for substantial change in the preparation of teachers generally has been the subject of a great deal of discussion around the country, though little action has been seen.

"We have seen some tinkering with course requirements and evaluation procedures," the study said, "but nowhere else have we seen such sweeping comprehensive change in a teacher-preparation program as at NAU. The Center for Excellence has established a grand precedent for American higher education." The study went on to name NAU as one of the 20 most progressive universities in the nation.

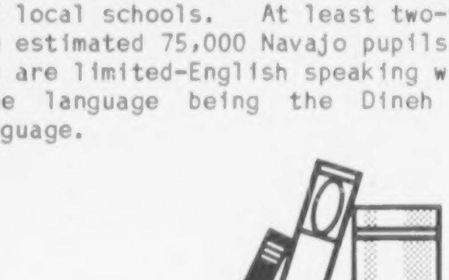
Dr. George N. Smith is NAU vice president and executive director of the center. He resigned the superintendency of the award-winning Mesa School District to come to NAU to pursue what he has called a "once in a lifetime opportunity to have a impact on education in the entire country" through the Center for Excellence.

In the past year Smith has criss-crossed the country to make more than 80 presentations on behalf of the center. "It is certainly gratifying to have our efforts recognized," he said, "but we must not rest on our laurels. The progress we have made toward the achievement of excellence in education for the youth of Arizona has placed us at the forefront of America's education reform movement. We must now pledge ourselves to staying there."

Gary Leatherman
Northern Arizona University

BILINGUAL EDUCATION AT NAVAJO COMMUNITY COLLEGE

Next to government workers, the field of education represents the second largest job cluster on Indian reservations. The evolution of a rural, isolated service group under government auspices to the present highly professional and specialized occupational field has occurred within a span of less than 35 years. During this period, educational institutions have multiplied rapidly in an effort to meet the growing needs of the Navajo Nation. Today, Navajo students attend schools that are maintained by the state of Arizona, the Bureau of Indian Affairs, religious denominations, and local schools. At least two-thirds of the estimated 75,000 Navajo pupils attending are limited-English speaking with their home language being the Dineh (Navajo) language.



In November 1984, the tribal council of the Navajo Nation made a commitment to upgrade the educational standards in all schools through the passage of its Educational Policies. In these policies, there is specific provision for the inclusion of the Dineh language and culture into the curriculum of all schools within the Navajo Nation. Four months earlier, the Arizona State Legislature passed Senate Bill 1160 to provide bilingual instruction in public schools for limited-English proficient students. Both of these legislative acts have given impetus to the training of educational personnel at higher education institutions.

Navajo Community College was chartered by the Navajo Tribal Council and is in its 16th year of operation. It is accredited by the North Central Association of Colleges and Secondary Schools and offers both certificate and academic programs at the two-year level in approximately 41 different fields of study. In 1983, 153 of the 217 Navajo graduates of Northern Arizona University and University of Arizona had previously attended Navajo Community College.

In response to this recent legislation, Navajo Community College hosted a Navajo Bilingual Education Institute at its Tsaile campus from June 10 through August 1, 1985. Approximately 300 students enrolled in 28 courses covering bilingual curriculum development and methods of teaching Navajo language, history, and culture; and specific content classes as Navajo linguistics, Navajo language, history, and culture. One-third of the student body consisted of graduate students earning credits from Arizona and New Mexico institutions of higher education. For many of these participants, their coursework assisted them to meet state requirements for a Bilingual Teacher Certificate.

Evaluative reports on the summer institute were highly positive as participants were challenged to learn the structure of the Navajo language and to probe their ancestral philosophy in the study of Navajo culture. As educators and future teachers, participants studied techniques of improving instruction for Navajo children in developing curriculum and in teaching pupils about the Navajo language, history, and culture.

In light of the recent summer activities, Navajo Community College is continuing to build its teacher/teacher-aide training program in coordination with Northern Arizona University and the University of New Mexico. In such a "two plus two" approach, the Navajo Nation will benefit from quality educators whose program of study reflects a commitment of service to the Navajo pupil.

Vivian Arviso
Navajo Community College

ARIZONA SECONDARY VOCATIONAL EDUCATION IS ON THE MOVE!

Few years have seen the changes in vocational education that Arizona has seen during this past 12 months.

First, the Carl D. Perkins Vocational Education Act was passed as a new, major piece of federal legislation. Emphasis is on improving programs and increased services to targeted populations.

Meanwhile, in Arizona, "The State Vocational Education Funding Model" was being created. This would revolutionize not only the funding structure, but also the quality of programs. It would even determine what vocational courses offered in high schools would have a priority as well as support the further development of curriculum for vocational skills, related basic skills, and responsibility skills.

As a result of this new funding model, legislation was passed this spring (S.B. 2205) to include $3,000,000 in additional support to secondary vocational education programs.

Change is clearly in store for Arizona vocational education. The outcomes will be programs which are:

- skill-based with clear expectations and based on quality standards;
- integrated with basic academic and work ethic skills;
- organized upon an industry-current, sequential curriculum between secondary and postsecondary;
- validated by the private sector;
- based on a comprehensive career counseling plan for students.

The state funding plan includes several components which will lead to the above outcomes. These components are: the funding base, program standards, and new expenditure guidelines.

FUNDING BASE

Cost Factors were developed through a study of the existing programs in secondary vocational 11th and 12th grade preparation programs. These were compared with those from other states. A final factor for each viable secondary vocational education program was structured.

These are now the basis for determining the amount of money a vocational education program requires.

Labor Market Priorities were utilized to determine what occupations will have the most opportunities for students to find employment. These are then rank-ordered each year and the list becomes the order in which programs are funded.

This will encourage local education agencies to provide occupational training for the jobs most available, thus providing the prospective employer with a greater labor pool and the student with greater opportunities for employment.

Small School Incentives were established to offset the higher cost of offering programs for a small number of students.

Encouragement is provided for schools to also organize consortiums, articulate with community colleges in the area, and deliver programs via telecommunications or mobile labs.

By this means, individuals in a rural area may have a greater opportunity for occupational training than heretofore possible.

PROGRAM STANDARDS

Program standards were designed to ensure that the secondary vocational education student receives:

- instruction which is industry current;
- curriculum which is skill-based and directly related to the jobs in Arizona;

- instruction which has performance measures against which the student may judge the level of competencies required;

- an instructional setting with equipment which is industry current;

- activities which will involve working in the community and actual on-the-job experiences; and,

- other assistance and support for special needs.

Vocational education will take an in-depth look at its programs in the next two years. It will examine how closely it comes to these standards and what still needs to be accomplished.

The Arizona Department of Education has established a number of activities to enhance the quality of vocational programs. These include:

- An inservice program called "RAVE" to update teachers in the latest industry methods and equipment.

- Development of the Arizona Employability Skills Lists including job skills, related basic skills, and responsibility skills. These are validated by workers from across Arizona.

- Development of instructional materials with the Arizona Center for Vocational Education to provide these skills to students.

- A total facility and equipment inventory for Arizona with a recommended list of equipment established for each vocational program.

NEW EXPENDITURE GUIDELINES

The guidelines for expenditures emphasize the need for equipment, supplies, and repair. These needs are identified by local adminstrators and school board members as critical.

This emphasis also places a high standard on accountability, directing the monies to high priority occupational programs. The result should be an increased ability to deliver high quality vocational education programs.

Supplemental funding programs are also available through federal funds for support programs for special populations, adult, and postsecondary programs.

CONCLUSION

Secondary vocational education in Arizona is moving in a new direction toward high quality programs geared to industry needs.

This will provide a structure to build upon which will enhance not only the individual opportunity for entry-level technical jobs but also encourage industry and business to locate and expand in Arizona because of the well-qualified labor pool.

This effort has involved over 300 business people and 200 educators this past year. Our future in Arizona will be forged by these continued linkages between education and the business community striving for a quality product--THE ARIZONA WORKER.

VOCATIONAL EDUCATION IN ARIZONA IS ON THE MOVE! Won't you join us in this move to a greater Arizona future?

Barbara Border
Arizona Department of Education

TEACHER COMPENSATION

The spirit of reform recognizes the importance of teachers. Current reform efforts are acknowledging this importance by suggesting that the key to improving education lies in changing the way teachers are paid.

In this sense, teacher compensation is seen as the new management tool in education.

There are five basic approaches to teacher compensation:

- Merit pay--systems which base all or part of teachers' salaries on periodic assessments of their performance.
- Market sensitive pay--systems which tie teachers' pay to the external labor market.
- Job ladders--systems which have salaries on specific sets of duties.
- Unified salary schedule--systems which tie teachers' pay to levels of education and experience.
- Career development plans--systems which base salaries on factors that demonstrate skill development.

In recent years, it appears that teacher expectations about levels of pay have indeed been violated. There is ample evidence that the salary levels in teaching are lower than those available in occupations requiring comparable levels of education and training. In fact, this holds true for both entry salaries and career earnings. It is not surprising that people who consider teaching, but choose other occupations, cite low salary as a major reason for seeking alternatives. Thus, to the degree that teachers' levels of pay are not keeping up with those of other professions, we need to focus on improved salaries in attracting prospective teachers to the profession.

The research findings on retaining teachers in the profession naturally extend from the findings on attracting teachers. The degree to which teachers feel successful with students is of primary importance in teacher retention. Teachers who leave education say they felt blocked in their attempts to reach students and help them learn.

Although teachers work to meet economic needs, what motivated them most to improve their teaching skills is the prospect of helping students learn. Research suggests that teachers readily seek out growth and development opportunities when they feel that the opportunities would facilitate their success with students. Thus, development opportunities must appeal to teachers' sense as professionals, as persons who apply their knowledge and skills to treat and manage conditions that promote student learning.

Career development approaches to compensation should be differentiated from job ladders and merit pay. Career development plans are designated to facilitate the continuous skill development and professional growth of teachers. While job ladders focus on differentiating jobs and often on moving teachers into jobs with hierarchical functions or quasi-administrative functions, career development plans focus on enhancing the development of teachers within the function of classroom teaching. Approaches to career development spur the career growth of teachers in the classroom by increasing the opportunities that they need to further develop their skills.

Successful school district implementation of career development plans requires participation by teachers in all stages of the plan's development. It also requires significant time commitments from teachers, school administrators, and district administrators for program planning. During the trial period and beyond, there must be a long-term commitment to funding by district administrators.

Finally, career development plans require difficult decisions concerning the specific sets of skills required for career-level advancement. In a career-development plan, promotion from one career level to another and corresponding salary increases are in recognition of an individual teacher's readiness to advance, having demonstrated the specific sets of skills that are necessary to qualify for the next level. It is important to recognize that in career-development approaches, the school system has a responsibility to help the teacher prepare for promotion by providing the necessary resource support and development opportunities.

The formative evaluation system of a school is critical in helping teachers demonstrate the competencies expected by the system at the next higher level. Unlike summative evaluation, which focuses on judging teacher performance, formative evaluation focuses specifically on helping teachers enhance their skills. Formative evaluation systems do this by continually monitoring teachers performance, providing feedback to teachers, and specifying recommendations for improving skills. In formative evaluations, teachers may capitalize on their already existing strengths, as well as dedevelop further sets of skills that will build on and enhance the competencies expected for promotion. Thus, judgments about whether or not individual teachers are ready for promotion, while bound to be somewhat subjective, are facilitated by strong formative evaluation systems and a strong commitment by the school system to providing teachers with the resources they need to demonstrate skills.

Cheryl Anderson
Arizona Education Association

EXCELLENCE IN EDUCATION THROUGH EXCELLENCE IN MANAGEMENT

During the summer of 1984, IBM's Corporate Management Development group offered a special five-day program for school executives and administrators throughout the United States. The program included many management topics that are taught to IBM managers worldwide.

More than 20 Arizona officials attended the sessions in Southbury, Connecticut, including Merrill A. Grant, the former superintendent of Tucson Unified School District (TUSD). While in Connecticut, Grant wrote to the IBM chairman of the board, John R. Opel, and asked if IBM could loan one of the Southbury staff to help Grant set up the program for TUSD's 120-plus administrators.

The request was forwarded to the IBM Tucson plant and the management development staff. Dr. Mary Burke, a management development senior education specialist, took on the added responsibility of taking the corporate program, the Tucson management development programs, and TUSD's thoughts on what they needed--turning these elements into a tailored program that contained proven management techniques. Dr. Burke, a former teacher, was able to filter through the apparent differences in school management and business management and put a program together that concentrated on the similarities.

The Tucson program which adopted the slogan "Excellence in Education through Excellence in Management," has been offered six times during 1985. One hundred twenty TUSD principals and assistants, 20 Sunnyside Unified administrators, and 29 administrators from eight other Pima County districts have attended the program.

The topics, taught mostly by IBM managers and education specialists, concentrated on "people management" subjects such as: situational leadership, communications, performance management, and managing for agreement. Business planning, business and education trends, and using the PC as a management tool were also covered. IBM senior managers provided the classes with perspectives on the IBM culture--the basic beliefs and principles that guide the IBM management team.

The feedback from the programs has been very positive. Many of the principals have said that all of their formal training has been in education and education administration. Most said they never had formal training in management techniques and some said they never thought of themselves as managers. The IBM team intentionally never tried to convince the principals that they were managers. They didn't have to, because the principals participated so well in each module that they convinced each other that the various techniques were applicable. This also led to an unexpected benefit of the program. The participants felt that spending a week with their peers--away from the office--gave them some quality time to compare notes and just talk.

What may turn out to be the most valuable lesson for both the school officials and the IBM employees involved in the program is simply that the similarities far outnumber the differences. Many of the rules are different, the organizations are different, and the end products are different. However, good management has the same positive effect in building data processing equipment as it does in building outstanding teachers and students.

Larry J. Rauchut
IBM Tucson

ARIZONA STATE UNIVERSITY'S PROJECT INTERFACE

The options afforded disabled persons have been augmented in recent years through legislation, federal and state, aimed at improving their educational and employment opportunities. Recognizing the fact that, without employment, many disabled individuals turn to community services only to find a confusing array of service providers, differing eligibility requirements, and long waiting lists--Congress responded. In 1983, Congress amended the Education of the Handicapped Act to establish the Secondary Education and Transitional Services for Handicapped Youth Program. This act enbled the Office of Special Education and Rehabilitative Services (OSERS) to initiate grant activity which would provide assistance for projects that:

1. strengthen and coordinate education, training, and related services that assist handicapped youth in the transition to competitive or supported employment, postsecondary education, vocational training, continuing education, or adult services; and

2. stimulate the improvement and development of programs for secondary special education.

PROJECT INTERFACE

Intervention and Networking between Training and Education to Retain and Foster Advancement in Careers and Employment for handicapped postsecondary youth presently is operational at Arizona State University's Community Services Center.

The Project INTERFACE model consists of four major components to the attainment of the project purpose: identification, intervention, employment, and evaluation.

IDENTIFICATION: There are three populations of students to be identified: disabled secondary students between the ages of 18 and 22 who (1) participated in both special education and vocational education, (2) have participated in vocational education programs only, or (3) have not participated in either vocational or special education programs. Assistance in the identification process is provided by government agencies, school guidance counselors, special education personnel, vocational education personnel, disabled person advocacy groups, and the news media.

INTERVENTION: There are three subcomponents to the intervention component: intake, vocational evaluation, and employment training. The intake process involves establishing client relationships, developing and understanding each client's unique situation and needs, and conveying information about the job clearinghouse and about setting personal goals.

Vocational evaluation entails planning and coordinating evaluation, providing the client with occupational guidance counseling (both individual and group), providing work adjustment services, coordinating services, evaluating client progress, re-evaluating goals as necessary, helping the client to make occupational choices, placing the client on the job, and conducting situational assessment.

Employment training involves individual counseling, crisis intervention, job-seeking skills training, arranging ancilliary services, arranging and planning placements, generalized skill training, and writing an Individualized Transition Education Plan (ITEP).

EMPLOYMENT: The third major component is founded on two specific areas: (1) situational assessment, and (2) a methods engineering approach. Securing employment, providing individual counseling, working with the employer, following client progress, and crisis intervention are included in this step.

A primary method of ensuring the placement of individuals in competitive employment is situational assessment. Situational assessment focuses on the general work personality of the individual rather than on specific job skills. In essence, situational assessment allows one to identify the specific employment strengths and weaknesses of the individual.

The methods engineering approach is used to modify jobs when necessary. According to Brolin and Webster,* job modification consists of four elements:

1. Modifying the environment: Changing the physical layout or location of the work environment and providing assistive devices to accommodate the disabled worker.

2. Modifying the process: Restructuring job procedures, which includes analyzing the work task, determining whether or not the job can accommodate a person with a disability, and redesigning the task for a disabled person in such a way that the task will be accomplished with the desired outcome.

3. Modifying the machine: Making physical changes in a machine or equipment in order to permit individuals with disabilities to accomplish the job within time and quality limits.

4. Modifying the person: Using medical or engineering technology to provide a prosthetic device that can assist in managing a work task that could not otherwise be managed.

EVALUATION: This final component involves both client and project efficacy evaluation. Client evaluation primarily involves employment and adjustment to work failure. Intervention to promote client success involves counseling and support, crisis intervention, placement evaluation, and the continuous monitoring of the client's performance.

There are three areas of project efficacy evaluation--formative, summative and development, and implementation of related research. There are three major goals relative to formative evaluation: (1) To what extent is the model demonstration program effective, (2) To what extent is the program efficient, and (3) To what extent is the program transportable?

Presently, Project INTERFACE staff are processing disabled individuals through the initial phases of their model postsecondary transition program. Twenty-five youths between the ages of 18 and 22 have been identified and are involved in the orientation, evaluation, and computer-assisted instruction phases. Additional referrals are expected as a mailing to over 400 disabled youths and parents has been made. Local public schools have been very cooperative in mailing project materials to their former students.

In addition to student identification and training, Project staff have contacted approximately 200 business and industrial groups soliciting their cooperation in providing employment opportunities for Project trainees to ensure trainee participation in that project phase.

Project INTERFACE can provide employers with:

- a pool of job-ready applicants to fill their employment needs;
- follow-up to ensure new hires make an appropriate adjustment to the work environment;
- assistance with their Affirmative Action tion Programs through recruitment and technical assistance;
- assistance with handicap awareness training; and
- assistance to obtain training and tax incentives.

Project INTERFACE staff invite interested persons or groups to visit at 200 North Curry Road, Tempe or contact the office at (602) 965-2070 for further information.

Dr. Steven D. Owen
Arizona State University

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*Brolin, J. and D. Webster, "Job Modification in Vocational Evaluation," Vocational Evaluation and Work Adjustment Bulletin, II (3), pp. 7-12.

ARIZONA UNEMPLOYMENT INSURANCE ACTIVITIES - JULY 1985

	July 1985	June 1985	July 1984	% Change From One Year Ago
Arizona Claimants Served*	31,633	31,970	28,160	+ 4.3%
Arizona Average Weeks Unemployed**	8.5	8.3	8.8	- 4.6%
Arizona Benefits Paid*	$ 9,787,353	$ 8,889,619	$ 8,659,073	- 5.9%
Arizona Trust Fund Balance	$303,731,428	$295,410,671	$222,160,497	+43.0%

*All Programs **UI only

THE ARIZONA LABOR FORCE IN JULY

After eight months of rising unemployment, Arizona's unemployment rate followed the national rate by declining to 6.5 percent. While the unemployment rate in Maricopa County was unchanged in August, Pima County and eight rural counties saw their unemployment rates fall. A combination of greater-than-seasonal hiring and a drop in the number of job seekers pushed the unemployment rate down. Although this one-month improvement is encouraging, the outlook is for higher unemployment in the months ahead.

Looking at employment changes by industry and area, August continued the pattern of the last few months. The metropolitan areas continue to have the most activity. For the second month in a row, construction employment declined as Maricopa County saw a 300 worker loss. With vacancy rates rising in both commercial and multifamily housing, it is unlikely that much additional new construction will be started in this area. But with vacancy rates in single-family housing low, the employment decline that we expect to last well into next year should not be as precipitous as in previous years.

The addition of 700 new jobs in manufacturing this month was the result of stronger-than-usual seasonal gains in food processing, apparel, and printing. Unfortunately, these seasonal gains will be lost later this year. Meanwhile, the electronics industry lost 500 jobs which just offset the increase of 500 jobs in aerospace. This is the fourth month in which electronics has lost employment, and since its peak in April, a total of 1,800 jobs have been lost.

Among the state's remaining industries, all showed stronger than usual activity. In both trade and services, the declines that were recorded were less than usual as Maricopa County and the balance of the state showed strong growth. Most of that growth can be attributed to continuing summer tourism in the northern rural counties, preseason activity in the southern rural counties, and strong population growth in Maricopa County. Of noteworthy importance is the lack of hiring which has occurred in the state's department stores over the last year. While overall job growth in the last 12 months has been good in Maricopa and Pima counties, there has been a net department store job loss. Clearly, competition among department stores is keen.

Finally, the addition of 1,000 jobs in government resulted from the addition of 2,400 jobs in schools as they began to get ready for the fall semester, and the loss of 1,400 summer jobs in various local government programs. Both events are expected seasonal activity and in September a very large jump in employment is expected as schools open for the new term.

August was another month of listless activity for Arizona's economy. Although unemployment was down, that trend is not expected to continue because future economic growth nationally is expected to be slight. While there are no obvious forces tending to push the economy into a deep recession, there is an equal lack of forces influencing a recovery. Therefore, we expect the economy to languish in an environment of seasonal employment changes and declines in manufacturing and construction.

Dan Anderson
Research Administration

Arizona Labor Force and Employment

August 1985 (in thousands)

	ARIZONA				
				-- Amt Change --	
	Aug.* 1985	Jul. 1985	Aug. 1984	Jul. to Aug.	1984 to 1985
TOTAL CIVILIAN LABOR FORCE**	1426.0	1430.1	1406.0	-4.1	+20.0
Total Unemployment	96.5	102.3	67.2	-5.8	+29.3
Rate	6.8	7.2	4.8	---	---
Rate (Sea. Adj.)***	6.5	6.7	4.6	---	---
Total Employment	1329.5	1327.8	1338.8	+1.7	-9.3

THE ABOVE LABOR FORCE STATISTICS SHOULD

NONAGRICULTURAL WAGE AND SALARY EMPLOYMENT BY PLACE OF WORK

	Aug.* 1985	Jul. 1985	Aug. 1984	Jul. to Aug.	1984 to 1985
TOTAL WAGE AND SALARY	1236.0	1237.0	1162.0	-1.0	+74.0
Manufacturing	183.4	182.7	175.1	+0.7	+8.3
Durable Goods	145.0	145.4	138.5	-0.4	+6.5
Stone, Clay and Glass	8.5	8.5	7.3	+0.0	+1.2
Primary and Fabricated Metals	16.7	17.1	17.1	-0.4	-0.4
Primary Metals	7.2	7.1	7.2	+0.1	+0.0
Fabricated Metals	9.5	10.0	9.9	-0.5	-0.4
Machinery	69.9	70.4	69.1	-0.5	+0.8
Other Durable Goods	49.9	49.4	45.0	+0.5	+4.9
Aircraft and Missiles	23.0	22.5	20.5	+0.5	+2.5
Lumber and Wood Products (Except Furniture)	7.8	7.7	7.1	+0.1	+0.7
All Other Durable Goods	19.1	19.2	17.4	-0.1	+1.7
Nondurable Goods	38.4	37.3	36.6	+1.1	+1.8
Food and Kindred Products	8.6	8.3	7.9	+0.3	+0.7
Apparel	4.9	4.5	5.0	+0.4	-0.1
Printing and Publishing	14.4	14.2	13.5	+0.2	+0.9
All Other Nondurable Goods	10.5	10.3	10.2	+0.2	+0.3
Mining and Quarrying	11.3	11.1	13.1	+0.2	-1.8
Copper Mining	8.6	8.6	10.2	+0.0	-1.6
Other Mining and Quarrying	2.7	2.5	2.9	+0.2	-0.2
Construction	109.9	110.1	98.6	-0.2	+11.3
Trans., Communications, and Public Utilities	63.3	63.3	60.8	+0.0	+2.5
Transportation	28.6	28.7	27.9	-0.1	+0.7
Communications and Public Utilities	34.7	34.6	32.9	+0.1	+1.8
Trade	298.4	299.7	282.6	-1.3	+15.8
Wholesale Trade	62.2	62.5	58.4	-0.3	+3.8
Retail Trade	236.2	237.2	224.2	-1.0	+12.0
General Merchandise and Apparel	37.7	37.7	37.6	+0.0	+0.1
Food Stores	35.8	36.3	34.1	-0.5	+1.7
Automotive and Service Stations	29.7	29.7	27.9	+0.0	+1.8
Eating and Drinking Places	83.0	83.3	77.7	-0.3	+5.3
Other Retail Trade	50.0	50.2	46.9	-0.2	+3.1
Finance, Insurance, and Real Estate	77.6	77.2	72.7	+0.4	+4.9
Services and Miscellaneous	295.1	296.8	274.8	-1.7	+20.3
Hotels and Other Lodging Places	29.7	30.1	26.9	-0.4	+2.8
Business Services	67.8	68.1	61.6	-0.3	+6.2
Health Services	71.2	71.4	68.9	-0.2	+2.3
Other Services	126.4	127.2	117.4	-0.8	+9.0
Government	197.0	196.1	184.3	+0.9	+12.7
Federal	41.2	41.3	39.9	-0.1	+1.3
State and Local	155.8	154.8	144.4	+1.0	+11.4
School	80.9	78.5	73.4	+2.4	+7.5

* Preliminary

** Labor force, unemployment, and employment are reported by place of residence.

*** Normal seasonal variations have been eliminated to reflect underlying economic trends.

NOTE--Prepared in cooperation with the U.S. Department of Labor,Bureau of Labor Statistics.

Arizona Labor Force and Employment

August 1985 (in thousands)

MARICOPA COUNTY					PIMA COUNTY				
			-- Amt Change --					-- Amt Change --	
Aug.* 1985	Jul. 1985	Aug. 1984	Jul. to Aug.	1984 to 1985	Aug.* 1985	Jul. 1985	Aug. 1984	Jul. to Aug.	1984 to 1985
903.3	904.9	887.4	-1.6	+15.9	256.5	257.3	255.6	-0.8	+0.9
46.5	47.1	31.7	-0.6	+14.8	13.4	14.3	11.0	-0.9	+2.4
5.1	5.2	3.6	---	---	5.2	5.6	4.3	---	---
5.0	5.0	3.5	---	---	5.1	5.3	4.2	---	---
856.8	857.8	855.7	-1.0	+1.1	243.1	243.0	244.6	+0.1	-1.5

OT BE USED FOR ECONOMIC ASSISTANCE PROGRAMS

NONAGRICULTURAL WAGE AND SALARY EMPLOYMENT BY PLACE OF WORK

MARICOPA COUNTY					PIMA COUNTY				
Aug.* 1985	Jul. 1985	Aug. 1984	Jul. to Aug.	1984 to 1985	Aug.* 1985	Jul. 1985	Aug. 1984	Jul. to Aug.	1984 to 1985
811.2	813.7	756.1	-2.5	+55.1	223.1	223.3	209.6	-0.2	+13.5
131.9	132.1	126.7	-0.2	+5.2	32.0	31.7	29.7	+0.3	+2.3
105.4	106.0	101.4	-0.6	+4.0	26.8	26.6	24.8	+0.2	+2.0
5.1	5.1	4.3	+0.0	+0.8					
11.0	11.2	10.9	-0.2	+0.1					
55.9	56.5	55.7	-0.6	+0.2					
33.4	33.2	30.5	+0.2	+2.9					
26.5	26.1	25.3	+0.4	+1.2	5.2	5.1	4.9	+0.1	+0.3
5.5	5.5	5.2	+0.0	+0.3					
3.1	2.9	3.0	+0.2	+0.1					
10.5	10.4	9.9	+0.1	+0.6					
7.4	7.3	7.2	+0.1	+0.2					
0.6	0.6	0.6	+0.0	+0.0	2.4	2.4	3.3	+0.0	-0.9
75.8	76.1	67.3	-0.3	+8.5	21.5	21.4	18.6	+0.1	+2.9
42.0	41.9	39.3	+0.1	+2.7	8.8	8.9	9.1	-0.1	-0.3
19.6	19.7	18.6	-0.1	+1.0	3.9	4.0	4.2	-0.1	-0.3
22.4	22.2	20.7	+0.2	+1.7	4.9	4.9	4.9	+0.0	+0.0
202.0	203.2	191.7	-1.2	+10.3	49.4	49.6	46.6	-0.2	+2.8
49.5	49.8	47.0	-0.3	+2.5	7.5	7.6	6.6	-0.1	+0.9
152.5	153.4	144.7	-0.9	+7.0	41.9	42.0	40.0	-0.1	+1.9
23.4	23.3	23.5	+0.1	-0.1	7.2	7.3	7.3	-0.1	-0.1
22.5	22.8	21.7	-0.3	+0.8	5.8	5.9	5.4	-0.1	+0.4
19.1	19.1	17.7	+0.0	+1.4	4.6	4.6	4.4	+0.0	+0.2
53.0	53.5	49.3	-0.5	+3.7	15.6	15.5	14.7	+0.1	+0.9
34.5	34.7	32.5	-0.2	+2.0	8.7	8.7	8.2	+0.0	+0.5
60.9	60.4	56.8	+0.5	+4.1	10.8	10.8	10.2	+0.0	+0.6
197.7	198.6	183.5	-0.9	+14.2	55.9	57.0	50.3	-1.1	+5.6
17.0	17.4	14.7	-0.4	+2.3	4.4	4.3	4.0	+0.1	+0.4
55.0	55.1	50.8	-0.1	+4.2	10.0	10.3	8.4	-0.3	+1.6
47.1	47.2	46.9	-0.1	+0.2	15.4	15.4	13.9	+0.0	+1.5
78.6	78.9	71.1	-0.3	+7.5	26.1	27.0	24.0	-0.9	+2.1
100.3	100.8	90.2	-0.5	+10.1	42.3	41.5	41.8	+0.8	+0.5

-- Prepared by Labor Market Information, Research and Analysis (CPS, 1/85)

NONMETROPOLITAN COUNTIES
LABOR FORCE AND EMPLOYMENT
August 1985

	Apache	Cochise	Coconino	Gila	Graham	Greenlee	La Paz
TOTAL CIVILIAN LABOR FORCE*.	15,500	28,300	36,250	12,550	7,350	2,100	4,550
Total Unemployment	2,725	2,300	3,575	1,425	825	350	800
Rate	17.6%	8.1%	9.9%	11.4%	11.2%	16.7%	17.6%
Rate (Seas. Adj.)**. . . .	16.3%	8.1%	10.1%	11.4%	10.8%	16.8%	-INA-
Total Employment	12,775	26,000	32,675	11,125	6,525	1,750	3,750

THE ABOVE LABOR FORCE STATISTICS SHOULD NOT BE USED
FOR ECONOMIC ASSISTANCE PROGRAMS

	Apache	Cochise	Coconino	Gila	Graham	Greenlee	La Paz
TOTAL WAGE AND SALARY. . . .	14,850	23,100	33,725	9,875	4,525	1,800	2,450
Manufacturing.	750	2,175	2,625	1,300	150	50	75
Mining and Quarrying	25	175	50	1,625	50	650	0
Construction	1,000	1,350	1,675	425	150	100	75
Trans., Comm., & Pub. Util..	1,850	1,475	2,325	325	175	50	50
Trade.	1,425	5,025	8,025	1,925	1,325	300	850
Fin., Insur., & Real Estate.	275	625	775	225	150	25	75
Services and Miscellaneous .	4,750	3,000	8,850	1,800	800	100	675
Government	4,775	9,275	9,400	2,250	1,725	525	650

	Mohave	Navajo	Pinal	Santa Cruz	Yavapai	Yuma
TOTAL CIVILIAN LABOR FORCE*.	23,875	24,900	30,300	9,200	32,800	38,450
Total Unemployment	2,400	3,400	4,050	2,175	1,925	10,725
Rate	10.1%	13.7%	13.4%	23.6%	5.9%	27.9%
Rate (Seas. Adj.)**. . . .	10.3%	13.8%	12.6%	21.0%	6.1%	-INA-
Total Employment	21,475	21,500	26,250	7,025	30,875	27,725

THE ABOVE LABOR FORCE STATISTICS SHOULD NOT BE USED
FOR ECONOMIC ASSISTANCE PROGRAMS

	Mohave	Navajo	Pinal	Santa Cruz	Yavapai	Yuma
TOTAL WAGE AND SALARY. . . .	17,925	18,525	24,600	7,725	20,100	22,475
Manufacturing.	2,500	1,825	3,150	975	2,400	1,575
Mining and Quarrying	300	1,100	3,600	0	600	75
Construction	1,500	950	1,075	300	1,975	1,975
Trans., Comm., & Pub. Util..	1,125	1,600	1,150	550	875	900
Trade.	5,225	3,450	4,425	2,975	5,225	6,875
Fin., Insur., & Real Estate.	875	375	675	250	800	850
Services and Miscellaneous .	3,550	5,475	2,825	1,225	4,175	4,225
Government	2,850	3,750	7,700	1,450	4,050	6,000

*Adjusted to the Current Population Survey (CPS) to reflect place of residence.
**Seasonal adjustment not applicable for economic assistance programs.

NOTE--Series for Yuma and La Paz counties start January 1983. Data are not comparable to any past series.

Prepared in conjunction with the U.S. Department of Labor, Bureau of Labor Statistics.

ARIZONA LABOR FORCE AND EMPLOYMENT FOR ECONOMIC ASSISTANCE PROGRAMS

August 1985

County	Civilian Labor Force	Employment	Unemployment	Rate
Statewide	1,425,923	1,329,424	96,499	6.8%
Apache	15,490	12,766	2,724	17.6
Cochise	28,299	25,995	2,304	8.1
Coconino	36,239	36,672	3,567	9.8
Gila	12,536	11,115	1,421	11.3
Graham	7,351	6,532	819	11.1
Greenlee	2,091	1,733	358	17.1
La Paz	4,560	3,761	799	17.5
Maricopa	903,343	856,874	46,469	5.1
Mohave	23,874	21,472	2,402	10.1
Navajo	24,904	21,513	3,391	13.6
Pima	256,501	243,128	13,373	5.2
Pinal	30,298	26,255	4,043	13.3
Santa Cruz	9,189	7,019	2,170	23.6
Yavapai	32,798	30,876	1,922	5.9
Yuma	38,450	27,713	10,737	27.9

These figures are the only official BLS labor statistics to be used for revenue sharing purposes. They are not designed to be used as economic indicators. Note: Series for Yuma and La Paz counties start January 1983. Data are not comparable to any past series.

ESTIMATED HOURS AND EARNINGS OF PRODUCTION WORKERS IN SELECTED INDUSTRIES IN ARIZONA

August 1985

INDUSTRY	AVERAGE WEEKLY EARNINGS			AVERAGE WEEKLY HOURS			AVG. HOURLY EARNINGS		
	AUG.* 1985	JULY 1985	AUG. 1984	AUG.* 1985	JULY 1985	AUG. 1984	AUG.* 1985	JULY 1985	AUG. 1984
FOR THE STATE OF ARIZONA*									
Manufacturing	387.84	386.56	369.05	40.4	40.1	40.6	9.60	9.64	9.09
Aircraft & Missiles	INA	INA	INA	INA	INA	INA	INA	INA	INA
Food & Kindred Products	333.38	357.41	310.84	38.8	40.8	39.1	8.59	8.76	7.95
Primary Metals	492.57	484.16	467.64	39.0	38.6	39.1	12.63	12.53	11.96
Machinery	350.27	352.32	323.36	39.4	39.9	39.1	8.89	8.83	8.27
Copper Mining	559.78	572.83	548.26	41.1	41.3	39.7	13.62	13.87	13.81
Construction	437.47	397.19	421.11	37.2	34.3	35.9	11.76	11.58	11.73
Utilities	565.85	568.42	562.40	42.9	42.9	45.1	13.19	13.25	12.47
Retail Trade**	247.61	239.02	235.96	34.2	34.0	34.7	7.24	7.03	6.80
Wholesale Trade	353.98	343.17	356.24	37.3	36.9	38.1	9.49	9.30	9.35

* Preliminary

** Excludes eating and drinking places.

NOTE--These estimates are based on a sample of full and part-time production and related employees whose payroll and hours are reported for the pay period which includes the 12th of the month. Prepared in cooperation with the U.S. Department of Labor, Bureau of Labor Statistics.

--Prepared by Labor Market Information, Research and Analysis (1972 SIC, 1/84)

MARICOPA COMMUNITY COLLEGES' INFORMATION TECHNOLOGIES CONFERENCE

"Information Technologies" was the topic of a conference sponsored by the Maricopa Community Colleges at the YWCA Leadership Development Center in Phoenix on March 26, 1985. Forty representatives of business and the Maricopa Community Colleges came together for a day to learn the most current needs of business and industry for computer and computer-related knowledge and skills that need to be delivered by the community colleges.

Dr. Paul A. Elsner welcomed the participants, pointing out the commitment of the colleges to supporting computerization and computer resources in student information systems, library automation, financial systems, shared data bases, electronic mail, and improved voice and data integrated systems as well as in the curriculum of the colleges that prepares students for work in business and industry. Faculty, support staff, and administration who work daily with sophisticated systems in the information technologies are better prepared to train students for jobs in information technologies and meet the needs of industry.

Keynote speaker Barbara Stallings, of Digital Equipment Corportion, encouraged the participants to approach the dialogue with openness and willingness to look at the needs of industry and the work of the colleges in new ways.

The committee prepared the following questions that generally guided the small-group dialogue:

1. How has the advent of information technology affected your organization?
2. What directions are you anticipating in the future?
3. How has the information technology revolution affected present and future employee job-skill needs?
4. What needs do you have or anticipate for employee training?
5. What should we be teaching to provide you with capable employees?
6. How should we be offering our programs/courses to best meet your needs?

Once the conference proceedings were analyzed it became apparent that there is a new structuring of information technologies into four general areas: (1) systems management and implementation, (2) software applications and use, (3) systems and programming, and (4) technical support.

SYSTEMS MANAGEMENT AND IMPLEMENTATION

Persons employed in management positions require a broad understanding of how information systems operate. This broad base should enable a manager to participate knowledgeably in the purchase of computer equipment, systems, services, and design of procedures to increase organizational efficiency and effectiveness. Key areas of knowledge in information technologies would include: networking, data and voice communications, data bases, office automation, automated marketing, data processing, and the movement of data through an entire system.

SOFTWARE APPLICATIONS USE

This area of knowledge and skill involves the largest number of employees that interact with information systems.

People working with the application of specialized software need to understand the systems they are using. In addition, they need to know and understand general concepts of information systems, such as how networks and data bases operate and how their work relates to these systems. They could be employed in a wide variety of positions such as a secretary using a word processing system, a mid- or high-level manager communicating via electronic mail, an accountant using a financial data base, or a plant production supervisor assessing labor costs. Persons working in these modes do not need to have programming skills.

SYSTEMS AND PROGRAMMING

There will still be work for the computer programmer, but the role is changing. The emphasis for the future will be toward working more closely with system users as consulting experts to pull together the necessary computer and software resources to accomplish a computing goal. The emphasis will be on using or modifying purchased software and less on company-developed systems.

These are technical experts who help the company implement technology in the work place. They will develop into specialists in data bases or networking, for example. The people in systems and programming will need to increase interpersonal communication skills as their work takes them into closer communication ties with non-technical co-workers.

TECHNICAL SUPPORT

In this area are the people who keep the hardware operating. They require a high degree of technical skill and knowledge in increasingly complex computer and telecommunications systems. This technical area was not the major focus of this conference.

Throughout the conference there was a strong emphasis that the specialized skills and knowledge in information technologies are sorely needed and that the information technologies impact all types of careers from medicine, construction, law, manufacturing, to accounting, etc. But the computer is not too forgiving of a person who lacks proficiency in writing, spelling, math, and reading. A wrong key selected on the keyboard can make a very large discrepancy in the communicated result.

A final report with all the results will be published shortly. The colleges will meet again with the participants next spring to demonstrate the work accomplished during the year that supports the recomme.dations.

Bertha A. Landrum
Maricopa Community Colleges

William S. Kiernet
Rio Salado Community College

A GUARANTEE STATEMENT FOR NEW EDUCATION GRADUATES

"We stand behind our product" is a slogan usually expressed in advertisements. At Grand Canyon College, this slogan is expressed by the faculty of the Education Department. This expression denotes a vote of confidence the faculty at Grand Canyon College has in its own program and its own graduates. Accountability is an important function of the American structure and the faculty at Grand Canyon College is willing to be held accountable through the performance of its Education graduates. The public has a right to demand accountability within the classroom. In response to that demand, Grand Canyon College designed a guarantee to provide students, graduates, and patrons with assurances of program quality and effectiveness.

The leaders in the state of Arizona have long recognized that quality through acceptance of its teacher candidates in classroom practicums and student teaching experiences, in leadership roles assigned to its graduates, and Grand Canyon College's faculty participation in establishing collegiality with the personnel in the school districts in the state.

There are several unique factors that are prevalent in the teacher-education program at Grand Canyon College:

- Entry into the classroom as early as a student's sophomore year.
- A minimum of 120 practicum hours in the classroom prior to student teaching.
- Faculty who have an average of 10 years of experience in the K-12 school system.
- Adjunct faculty who hold concurrent employment in the classroom or in administrative positions.

- A 94 percent average placement rate over the past 10 years.

Grand Canyon College was the first private institution in the state to offer a guarantee to any of its teacher graduates who are experiencing difficulty in the first year of teaching. Believing in the excellence of the program, the faculty at Grand Canyon College will provide assistance and support to any graduate recommended by Grand Canyon College for teacher certification in the state of Arizona at the elementary or secondary level.

The assistance began with the December 1984 graduates. The guarantee continues throughout the graduate's first year of teaching at no expense to the school district or to the teacher graduate.

Faculty from Grand Canyon College will support the new teacher by acting as consultants in such areas as:

- curriculum planning and design;
- classroom management;
- content presentation; and,
- individualized instruction.

The need for assistance may be determined by the Grand Canyon College graduate or by the principal or by the superintendent. The Education Department of Grand Canyon College will respond to such requests by providing faculty with appropriate expertise, either from the Education Department or from the other disciplines.

For example, if the teacher graduate is having difficulty in music education classes, faculty from both the Education and Music departments would act as consultants. If the difficulty is in the preparation of lesson plans at the elementary level in teaching science, faculty from both the Elementary Education and Science departments might respond.

The method of assistance will depend upon the individual needs of the teacher graduate. These methods might include:

- on-site classroom visitations;
- telephone conferences;
- small group sessions at the district level;
- identification of resource personnel and materials; and,
- last but not least--the promise of a friendly word of encouragement and support.

Letters of this guarantee were sent to every superintendent throughout the state of Arizona. As of this date, Grand Canyon College is pleased to announce that no one has contacted the Education Department for assistance.

Other colleges throughout the nation offer similiar programs of guarantee or warranty for their graduates. These programs have been established as a response to the nationwide debate over what excellence in education is and how to prepare teachers for the classroom. The establishment of these programs has brought about positive reactions from the school districts, the patrons, and the students themselves. Sheryl New, a student majoring in Special Education at Grand Canyon College, said she expects the guarantee will give confidence to a lot of first-year teachers. "The faculty members won't just let us go and say, 'We've done our job.' I have a lot of confidence in Grand Canyon College and what it can do for me." Nelda Kent, a retired teacher from the Alhambra Elementary District in Phoenix, said the guarantee is important because "there are certain things that you find out once you begin teaching that you cannot experience while in college." Education is the mainstay of our nation. With positive responses like the Guarantee Program at Grand Canyon College, the public can expect effective, competent teachers in its classrooms.

Dr. Patty J. Horn
Grand Canyon College

CAN DO AND THE PROPRIETORY SCHOOL

CAN DO (Coalition for the Advancement of New and Developing Occupations) is a management and funding service organization linking industry and educational institutions to help meet Arizona manpower training needs. In January 1982, the Division of Vocational Education, Arizona Department of Education (ADE), provided a research grant to the College of Medicine, University of Arizona, to develop and design a manpower linkage medium for the Arizona health-care industry. Under the directorship of John T. Condon, Ed.D., CAN DO came into being. It was designed to improve the responsiveness and flexibility of health occupations educators, public and private, in meeting the economic and employment opportunities for Arizonans in the health-care industry through manpower training programs.

The CAN DO organization is designed so that industry is in the primary role. Any industrial unit (i.e., hospital, long-term care facility, manufacturing, high tech, etc.) of any size, with the assistance of the CAN DO staff, describes what the content of the training is to be, sets the criteria of expectations (performance skills), determines when the training is to start and end, where they wish the training to take place, and indicates their available resources (i.e., equipment, manpower, dollars, etc.) to support the training. CAN DO then announces the training request to all accredited and/or licensed public and private educational institutions serving the region in which the industry needs the training. The educational institutions that are interested submit mini-proposals on how they would design and implement the requested training; what resources they have (i.e., equipment, location, faculty, dollars, etc.); plus their costs of providing the training. It is this mini-proposal process that introduces the concept of competition into the CAN DO model. The industry selects from the proposals the respective educational institution to do their training. A linkage results, agreements are made, and the training begins.

The uniqueness in CAN DO lies in two areas: 1) it provides the proprietory schools an equal opportunity with the public institutions to participate in start-up, short-term, job-specific training requested by industry, and 2) it provides the respective industry with alternate solutions to meet their training needs from which they select the most suitable training programs.

Proprietory schools and colleges have been an integral part of CAN DO. They receive every announcement for training and are eligible recipients of any Job Training Partnership Act (JTPA) federal training dollars, as are the public institutions. Each private school/college in Maricopa and Pima counties is a member of CAN DO along with the Arizona State Board of Private Technical and Business Schools. Two such institutions have provided training in Maricopa County and one in Pima County over the past two years.

In 1983 to the present time, the CAN DO project has linked with the Industry Training Services (ITS) project, another service and funding effort by the Arizona Department of Education. CAN DO/ITS now directly serves Pima, Pinal, Gila, and Maricopa counties for all industrial categories, including health care, and provides support services to all other Arizona counties through their respective ITS project coordinators. Some 24 training programs have been managed and funded through CAN DO/ITS these past two years.

The role of the proprietory schools/colleges has been prominent, effective, responsive, flexible, and supportive of industry's training requests through CAN DO/ITS linkages. CAN DO/ITS is again seeking funding for its continuance for 1985-86 from the Arizona Department of Education (ADE). ADE's interest, services, and funds are having a major impact on retraining, preparation training, and new skill training for Arizona's citizens to be employable in expanding, new, and adjusting Arizona industries.

Dr. John T. Condon
CAN DO

THE JTPA 3 PERCENT OLDER WORKER PROGRAM

The Job Training Partnership Act (JTPA) sets aside 3 percent of the Title II-A funds (for adult and youth training services) to provide special employment programs for older workers. The target population is defined as persons 55 and older who are economically disadvantaged and who have experienced difficulty obtaining employment or re-entering the work force.

The Department of Economic Security's Aging and Adult Division is responsible for the administration of the JTPA Older Worker Program and provides technical assistance regarding implementation and operation of the training and supportive services provided by the Service Delivery Areas and the agency subcontractors.

FOR THE EMPLOYER'S INTEREST. . .

Recent studies by the U.S. Department of Health & Human Services on both a regional and national basis indicate that a number of myths related to older workers and their performance are not substantiated by employer responses and supervisory evaluations. The following facts are provided to alleviate some of the myths:

MYTH NO. 1: Older workers are less productive than the average worker.

Research shows that productivity does not decline with a worker's age. Older employees work as well as younger employees in most jobs. Moreover, older workers meet the productivity expectations of their companies.

MYTH NO. 2: It costs more to prepare the older worker for the job than it does to prepare other workers.

There is little reason to believe that job preparation (training and orientation) of older workers is more costly than for other age groups. Employers should, of course, consider the most cost-effective ways of preparing older workers for a new job, such as practical exercises and on-the-job training.

MYTH NO. 3: The costs of employee benefits outweigh any possible gain from hiring older workers.

The costs of some benefits (such as health, disability, and life insurance) typically do increase with a worker's age. Other fringe benefits, however, are more closely tied to length of service and level of salary. A study of employment costs at the Travelers Insurance Companies found that it was not safe to assume that older workers cost more or less than younger workers.

MYTH NO. 4: Older workers do not get along well with others.

Studies show that older workers have records as good as or better than younger workers in terms of interpersonal relationships, dependability, and job commitment. Business owners who hire older workers find that they can bring stability to the work place and that they often serve as role models to younger workers.

MYTH NO. 5: Older people want to retire as soon as they can and remain in retirement.

Because of the diversity of older people, this is not necessarily true or false. Whether older persons want to work depends upon the individual, the inflation level, the availability of jobs (especially part-time jobs), and the adequacy of retirement incomes.

MYTH NO. 6: Older workers are prone to frequent absences because of age-related infirmities and above-average rates of sickness.

Data show that workers age 65 and over have attendance records that are equal to or better than most other age groups of workers. Older people who are not working may have dropped out of the work force because of their health. Older workers who stay in the labor force may well represent a self-selected healthier group of older people.

MYTH NO. 7: Older workers have an unacceptably high rate of accidents at work.

Reality is the reverse of the myth. Data show that older workers account for only 9.7 percent of all workplace injuries despite the fact that they make up 13.6 percent of the labor force.

PROGRAM ACCOMPLISHMENTS. . .

The Aging and Adult Administration, along with the JTPA Administration, highlight the following efforts and achievements of several programs in the placement of older workers.

1) The City of Phoenix, Aging Services, had an outstanding placement record for FY 84-85. A total of 90 older workers were enrolled and 78 were placed in unsubsidized employment.

2) The Cochise County Private Industry Council provides an Older Worker Program which emphasizes development of individual skills, self-reliance, and the establishment of independent and/or cooperative business operations.

3) The Cocopah Indian Tribe has developed a three-year plan for development and preservation of tribal history, crafts, and artifacts; the construction of a tribal cultural center; and the use of tribal elders as instructors in an arts and crafts skill development program.

THE CHALLENGE STILL AHEAD. . .

The challenge to the Older Worker Program is to expand training opportunities available to older workers; to increase the number of unsubsidized jobs for older workers; and to coordinate the efforts of training and employment planners, area agency directors, and private sector employers. The emphasis is on an effective, comprehensive older workers employment program which is a vibrant segment of the Arizona employment scene.

Jim Wilbanks and Steve Sandoval
Arizona Department of Economic Security

HIGH SCHOOL TO COLLEGE ARTICULATION

Taxpayers are now saving money because some high school and college programs are coordinated. Taxpayers are benefiting when buildings, equipment, and teachers are used to full advantage. But taxpayers are not the only winners. Students are saving time, money, and effort when not forced to repeat previously learned skills. High schools can now offer college level courses and colleges are receiving better-qualified applicants.

Educators use the term "articulation" to describe this coordination. Articulation is not new--some schools and colleges have coordinated their programs for years. For example, many rural community colleges have long used high school facilities to teach adult education courses at night.

What is new is the large number of programs articulated during the past year statewide. High school and college administrators have been meeting regularly to solve common problems since passage of the Arizona Vocational Education Act of 1982. One result has been the development and implementation of about 100 articulation agreements statewide.

The simplest way to articulate is to contract for programs or services. For example, Tempe Union High School District contracts with the Maricopa Skill Center to train its students for the occupations of electronics fabricator, machinist, and welder. It would not be cost-effective for Tempe Union High School District to offer these training programs itself for the small number of students involved.

Most articulation agreements involve the granting of college credit to high school graduates who have skills equivalent to a college course. For example, at Mingus Union High School, students who take classes in accounting, data processing, and office administration at their high school are exempted from taking beginning classes in those same programs at Yavapai College. Yavapai College has similar arrangements with every high school in Yavapai and Coconino counties. Maricopa and Pima counties have also made much progress in this area.

College credit can also be awarded to people who enter college with a valid license or certificate. Practical nursing program graduates of Metro Tech VIP (formerly Phoenix Union High School District Area Vocational Center) who have a valid practical nursing license, receive 24 first-year nursing credit hours upon admittance to the second year of the registered nursing programs at Maricopa Technical Community College, Phoenix College, and Scottsdale Community College.

However, it is articulation of a more complicated type that will capture the interest of citizens who pay for public education. They want to see buildings, equipment, supplies, and educators used to best advantage. This is occurring.

For example, Glendale Community College and Deer Valley Unified School District now offer diesel engine theory, passenger and light truck diesel, welding, machine shop theory, and digital concepts for both college and high school students at Deer Valley Vocational Technical Center. These courses are taught by Glendale Community College faculty.

Phoenix College and Metro Tech VIP have also combined resources in a creative, cost-effective way. Together they designed a culinary arts program that makes it possible for high school graduates to obtain a college degree in less time. Phoenix College has a program in food service administration but no kitchen in which to teach the quantity food preparation. Metro Tech VIP will soon have one of the best equipped teaching kitchens in the West. Both Metro Tech and Phoenix College students will learn quantity cooking in the new Metro Tech VIP teaching kitchen. Metro Tech VIP graduates will receive college credit when they continue their education at Phoenix College.

More articulation is on the way--partly because articulation benefits everyone--and partly because the time is right.

Articulation costs money. Busing students to another school is expensive and, since public education funds are based on enrollment, sending students somewhere else to take a class reduces a sending institution's budget. A receiving institution incurs added expense when it adds teachers and buys additional equipment and supplies to teach the sending institution's students.

In 1985 the Arizona Legislature responded to this problem. New legislation increases the reimbursement school districts receive for the cost of transportation and sending institutions are now able to apply for state reimbursement to cover the cost of articulation. Receiving institutions will bill sending institutions for the cost of teaching their students.

Local high school and community college governing boards statewide have also been very supportive of articulation. Their support is essential, since governing boards, college presidents, and school superintendents have final authority over articulation. The Maricopa County Community College District Governing Board, for example, placed such a high priority on articulation with high school districts that they hosted a dinner and board study session for governing board members and top administrators from the 17 Maricopa County high school districts.

But the real heros in this story are the extraordinary administrators and teachers who have made articulation happen. Recognizing the opportunities provided by the Arizona Legislature, and the benefits for students and taxpayers, they put aside turf considerations and worked together to develop articulation agreements that are mutually beneficial.

John Bradley
Maricopa Community Colleges

Carol LeBlanc
Arizona Community Colleges

EDUCATION-RELATED LEGISLATION PASSED IN THE 37TH SESSION

The Arizona economy is dependent on a qualified work force. "Importing" qualified personnel does not solve the problem. Now, more than ever, Arizona will be better able to produce the skilled workers required by the state's major industries because of legislation passed by the 37th Legislature.

H.B. 2205 - VOCATIONAL EDUCATION PROJECTS FUND

A key piece of legislation passed was House Bill 2205. The essence of the bill will help solve what has been a continuing problem not only in Arizona, but throughout the nation. The problem? Continuing to fund outdated programs merely because the programs had always been there. Most students in school now can expect to have at least three career changes in their lifetime. Teachers have a special challenge to keep up with the tremendous technological advances which occur on a daily basis. Vocational education must meet that challenge as well as the added dimension of having teachers with industry experience.

H.B. 2205 requires that the State Board for Vocational/Technical Education determine, through a study done by the Center for Vocational Education, a list of "high demand" jobs in Arizona. This list would then be prioritized to determine funding priorities. Programs which are not only "high demand" but also "high cost" will qualify for additional funding.

Another safeguard to verify program and staff standards is the utilization of local advisory committee recommendations. H.B. 2205 also addresses the cooperation, collaboration, and articulation between school districts and community college districts by allowing the schools or colleges to contract with each other. The programs must be State Board of Education approved programs. The district of residence could then compute twice the weight.

One significant change in vocational funding is that this bill addresses training for juniors and seniors in high school (11th and 12th grades). There have been concerns that the ninth and 10th grade students will not be funded. Schools may apply for funding, but the high demand/high cost programs will be given priority. Monies from other appropriated funds, both state and federal, may be used to support ninth and 10th grade programs.

In summary, the four main issues addressed in H.B. 2205 are:

1. An annually prescribed list of high-demand programs.
2. Added funding for programs which are "high demand and high cost."
3. Use of local business and industry advisory committees to recommend and verify staff and program standards.
4. School districts or community colleges may contract with each other for State Board approved programs. The district of residence may compute twice the group B weight for funding purposes.

Funding for 1985-86 will not exceed $3 million. In 1986-87, funding will be computed based on the amount of the previous year adjusted by the growth rate.

Other education-related bills passed by the 37th Legislature include:

H.B. 2235 - STATE AID TO COMMUNITY COLLEGES

This bill contains various provisions for changing state aid to community colleges including:

1. Capital Outlay - Replaces the current state aid per capita distribution for capital outlay with provisions for a fixed minimum appropriation based upon the amount a college was entitled to receive in 1984-85, plus additional appropriations based upon budget requests submitted to the legislature.
2. Maintenance and Operations - Revises the formula for state aid per capita distribution for maintenance and operation and provides for annual increases

in the formula amounts until state aid supports approximately 33 percent of the total operating budget of all community colleges in 1986-87.

3. Equalization Assistance - Increases the amount of equalization assistance for districts with low assessed valuation and repeals the expiration clause for equalization aid.

Estimated cost to the state: $8.6 million.

S.B. 1077 - SCHOOL BUDGETING AND FINANCE

This bill makes numerous changes in the school finance laws including: capital levy equalization, pupil transportation, state aid calculation, budget flexibility, maintenance and operations override, maintenance and operations budget capacity, provisions for small school districts, and kindergarten through grade three.

The estimated increase in school district budget capacity is $28.1 million while the estimated cost to the state is about $21.8 million.

S.B. 1336 - CAREER-LADDER PROGRAMS

This was another major bill establishing a five-year pilot project in which selected school districts may apply to a joint legislative committee to receive funding to implement career-ladder programs. Districts are eligible to apply for career-ladder funding if they have received a grant to develop a career-ladder plan or have submitted a career-ladder plan to the legislature. To be approved, a career-ladder program must establish a system which provides opportunities to teachers for continued professional advancement, which is based primarily on teaching skills, and in which each higher level requires either advanced skills or both advanced skills and additional responsibilities. The Joint Legislative Committee on Career Ladders will review the success of the pilot programs in 1989 to determine whether the opportunity to receive such funding should be extended to all school districts in the state.

Bev Joder
Arizona House of Representatives
Research Department

DEVELOPING SURVIVAL SKILLS TO FIGHT THE FEMINIZATION OF POVERTY

The traditional family, where the wife stays home as homemaker and mother, and the father "brings home the bacon," is declining yearly and fast becoming an economic luxury. The proportion of women who are in the labor force has grown from one-third in 1950 to more than half today. A 20-year-old woman can expect to spend at least 45 percent of her life in the labor market.

More and more women are being forced to enter or re-enter the job market due to divorce. In Maricopa County, seven out of 10 marriages end in divorce. Of the households headed by women, more than half live in poverty. By the year 2000, virtually all poor in America are expected to be single mothers and their children.* The "feminization of poverty" necessitates a close examination of the special employment and training needs of women by educators, government, and private industry. The economic and family implications can be staggering.

This population has special needs that are often not addressed by employment and training institutions. Characteristically, single parents and displaced homemakers possess low self-esteem and lack self-confidence. Their lives have been centered around serving others and they are often out of touch with their own needs. A feeling of helplessness, combined with a lack of decision-making skills, often makes acion seem impossible. Unfortunately, society encouraged girls to grow up to meet the knight in shining armor who would provide for them to live happily ever after. Though society--and specifically vocational educators--have made enormous strides to overcome this myth, many high school girls are still relying on it in 1985. As a result, many women entering or re-entering the job market lack a knowledge of the vocational options available. Without career counseling, women will most often choose occupations they are familar with, such as hairdresser or grocery check-out clerk, without analysis of the labor market or wage scale.

Traditionally, displaced homemakers and single parents have little or no work experience. Those with experience usually have large gaps in their work history. Day care and transportation needs must be met. Until a mother feels secure about her children's care, full energy cannot be directed toward training or employment.

Arizona Women's Employment and Education (AWEE) has developed a model program to specifically meet these needs of single parents and help them achieve economic self-sufficiency. The program consists of four components: motivation, training, placement, and support services.

Clients begin by attending a three-week (90 hours) intensive pre-employment readiness course. All activities are group oriented and designed to enhance self-esteem, resulting in the development of strong group support. Internal barriers are examined, skills are developed in decision making and goal setting, resulting in a change from "I can't" to "I can."

All activities are geared toward achieving and retaining economic independence. Clients explore career options, identify their skills and abilities, and learn how to translate homemaking and volunteer experience to the job market. Informational interviews and specific labor market information is provided individually by area employers. Back-up child care and transportation plans are also secured.

Upon graduation, a client has developed short- and long-range employment goals, detailing the steps to completion. AWEE graduates have prepared a resume and cover letter, participated in videotaped mock interviews, engaged in role-playing activities concerning conflicts which may occur on the job, and acquired knowledge on appropriate dress and demeanor on the job. Friends have been made and steps are being taken to reach that first paycheck. Many say that "AWEE changed my life." This is untrue. They changed their outlook on the future by looking at change as a personal opportunity for growth and by gaining the self-confidence to begin.

The transition to employment or to training often presents difficult problems for the single parent. To ease this transition, AWEE provides two years of follow-up support services. Every client is contacted monthly to make sure everything is proceeding as planned. As "hand holding" only increases dependence, AWEE provides support and encouragement for clients to practice the problem-solving skills learned in training. Support services provided include free legal assistance, free medical advice, an emergency fund, a clothing bank, crisis counseling, social service referrals, and job placement assistance. These support services have ensured AWEE's employment retention rate of 80 percent after two years.

The success of AWEE's program is founded on cooperation between government, the community, and private industry. In order to avoid duplication of existing services to single parents and women re-entering the job market, AWEE enjoys the support of the Maricopa County Human Resource Department, the Department of Vocational Education, the Governor's Office of Community Programs, the Community Action Programs, over 250 area employers, private and corporate contributors, and the Job Training Partnership Act. Last year, over 800 women received services, with 86 percent continuing their education or gaining employment.

As each individual woman overcomes personal barriers and gains economic independence, a step has been taken to reduce the feminization of poverty. This, however, is only the beginning. More programs designed to specically meet the needs of women returning to work must be established. Otherwise, the battle will be lost.

Marilee Robertson
Arizona Women's Employment and Education

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*SOURCE: The Feminization of Poverty, a pamphlet published by Wider Opportunities for Women, Inc.

EDUCATIONAL LEVEL OF ARIZONANS 25 YEARS AND OVER
(1980 Census)

COUNTY	LESS THAN 5 YEARS ELEMENTARY SCHOOL	HIGH SCHOOL GRADUATES	4 OR MORE YEARS OF COLLEGE	MEDIAN YEARS OF SCHOOL COMPLETED
Apache	26.2%	49.3%	10.4%	11.8
Cochise	4.7	68.8	13.8	12.5
Coconino	8.6	74.4	23.2	12.8
Gila	3.6	61.7	7.8	12.3
Graham	5.4	60.5	10.0	12.3
Greenlee	3.2	68.3	9.9	12.4
Maricopa	2.7	75.0	18.3	12.7
Mohave	1.0	69.1	8.8	12.5
Navajo	12.6	59.7	11.2	12.3
Pima	2.9	74.6	20.7	12.7
Pinal	7.0	55.0	9.3	12.2
Santa Cruz	9.3	54.0	13.2	12.2
Yavapai	1.1	73.9	16.2	12.5
Yuma	7.5	61.6	10.9	12.3
ARIZONA	3.8	72.4	17.4	12.7
U.S.	3.4	68.7	17.0	12.5

NOTE: Data are estimates based on a sample.

SCHOOL STATUS OF ARIZONANS 16-19 YEARS OLD
(1980 Census)

COUNTY	ENROLLED IN SCHOOL	HIGH SCHOOL GRADUATE	NOT ENROLLED, NOT HIGH SCHOOL GRADUATE	ARMED FORCES
Apache	61.1%	12.4%	26.5%	--
Cochise	69.3	12.3	13.7	4.7%
Coconino	74.1	13.4	12.5	--
Gila	62.8	13.5	23.8	--
Graham	73.2	14.8	11.9	--
Greenlee	65.3	21.7	13.0	--
Maricopa	64.0	16.8	18.4	0.8
Mohave	52.9	25.8	21.3	--
Navajo	59.4	14.0	26.0	0.6
Pima	69.5	15.2	14.1	1.3
Pinal	59.6	13.5	26.9	--
Santa Cruz	73.7	10.4	15.8	--
Yavapai	72.8	15.3	11.6	0.3
Yuma	53.5	13.9	26.0	6.5
ARIZONA	65.1	15.8	18.0	1.1
U.S.	70.1	15.3	13.2	1.5

NOTE: Data are estimates based on a sample. Figures may not total to 100.0 due to rounding error.

STATE APPROPRIATIONS FOR HIGHER EDUCATION
1984-85*
(in thousands)

	APPROPRIATIONS 1984-85	2-YEAR CHANGE
University of Arizona	$165,251	+31%
Arizona State University	118,716	+33%
Northern Arizona University	41,973	+25%
Community Colleges	47,758	+18%
Other Appropriations	3,462	N/C
TOTAL	377,160	+29%

HOW ARIZONA RANKS AMONG THE 50 STATES
ON 5 SCALES*

1984-85 APPROPRIATIONS		APPROPRIATIONS PER CAPITA		APPROPRIATIONS PER $1000 OF PERSONAL INCOME		2-YEAR CHANGE LESS INFLATION		10-YEAR CHANGE LESS INFLATION	
AMOUNT	RANK	AMOUNT	RANK	AMOUNT	RANK	PERCENT	RANK	PERCENT	RANK
$377,160,000	27	$128.50	21	$11.94	17	21%	2	17%	26

N/C= Not comparable.
*SOURCE: *The Chronicle of Higher Education*, October 31, 1984.

GENERAL FUND APPROPRIATIONS FOR ARIZONA PUBLIC UNIVERSITY SYSTEM
FY 1984-85

	ARIZONA STATE UNIVERSITY		NORTHERN ARIZONA UNIVERSITY	UNIVERSITY OF ARIZONA		BOARD OF REGENTS
	MAIN CAMPUS	WEST CAMPUS		MAIN CAMPUS	COLLEGE OF MEDICINE	
Operating Budgets, General Funds Appropriations (in millions)	$117.3	$1.3	$41.9	$134.3	$30.8	$3.1
Percent of Total General Funds Appropriation	35.6%	0.4%	12.7%	40.8%	9.4%	.9%

NOTE: Percentages do not total 100.0 due to rounding error.
SOURCE: Arizona Board of Regents.

FUNDS RECEIVED BY SCHOOLS FROM ARIZONA STATE TRUST LANDS
YEAR ENDING JUNE 30, 1984

	EARNINGS FROM TRUST LAND PERPETUAL FUNDS	RECEIPT DISTRIBUTION			TOTAL FUNDS RECEIVED
		SALES INTEREST	LEASE RENTAL	PENALTY & INTEREST	
Normal Schools-	$23,656	$6,925	$64,714	$ 87	$ 95,382
Half to Arizona State University	23,656	6,925	64,714	87	95,382
Half to Northern Arizona University					
University of Arizona-					
Agricultural & Mechanical Colleges	107,191	41,773	180,800	363	330,127
Military Institutes	46,052	1,888	59,567	309	107,816
School of Mines	87,731	22,431	102,752	313	213,227
University Land Code	193,850	5,213	175,899	1,569	376,531
University of Arizona, Act of 2-18-1881	356,030	20,355	274,356	3,481	654,222
Total, University of Arizona	790,854	91,660	793,374	6,035	1,681,923
Permanent Common Schools	15,279,600	1,868,453	7,995,538	79,613	25,223,204

SOURCE: Arizona State Land Department, *Annual Report*, 1983-84.

STATISTICS IN EDUCATION
(Grades K-12)
1983-84

Number of Pupils Enrolled in Public Schools	561,122
Number of Pupils Enrolled in Private Schools	45,737
Total State Enrollment	606,859
Number of Public Schools	877
Number of Private Schools	318
Number of Public School Classroom Teachers Female= 67.05% Male= 32.95%	26,326
Total Expenditures (All education programs)	$1,332,364,647
Average Cost per Pupil (Public Schools only, All education programs)	$2,374
Average Salary per Teacher	$24,161
Revenues:	
State Aid	51.96%
Local Support	34.17
Federal Aid	10.30
County Aid	3.57

SOURCE: Arizona Department of Education, Annual Report of the Superintendent of Public Instruction, FY 1983-84.

ENROLLMENT AT ARIZONA PUBLIC UNIVERSITIES AND COMMUNITY COLLEGES
FALL 1984

	TOTAL STUDENTS (HEADCOUNT)	TOTAL STUDENTS (FTE)
PUBLIC UNIVERSITIES*		
Arizona State University	40,563	30,761
Northern Arizona University	11,826	10,142
University of Arizona	29,777	24,888
SUB-TOTAL	82,166	65,791
PUBLIC COMMUNITY COLLEGES**		
Arizona Western College	3,718	1,735
Central Arizona College	3.676	1,592
Cochise College	4,194	2,049
Eastern Arizona College	3,403	1,586
Glendale Community College	13,013	6,056
Maricopa Technical Community College	2,877	1,275
Mesa Community College	14,915	7,302
Mohave Community College	3,211	974
Northland Pioneer College	4,535	1,375
Phoenix College	11,798	5,574
Pima Community College	20,042	9,603
Rio Salado Community College	12,501	2,797
Scottsdale Community College	7,324	3,530
South Mountain Community College	1,154	608
Yavapai Community College	5,194	1,634
SUB-TOTAL	111,555	47,690
GRAND TOTAL	193,721	113,481

FTE = Full-time equivalent = Total number of credit hours divided by 15.

* SOURCE: Arizona Board of Regents.

** SOURCE: State Board of Directors for Community Colleges of Arizona.

FACULTY AT ARIZONA PUBLIC COMMUNITY COLLEGES
BY SEX, 1984-85

	MALE	FEMALE	PERCENT FEMALE
Arizona Western College	44	26	37.1%
Central Arizona College	64	17	21.0
Cochise College	70	27	27.8
Eastern Arizona College	50	10	16.7
Glendale Community College	112	55	32.9
Maricopa Technical Community College	30	28	48.3
Mesa Community College	117	62	34.6
Mohave Community College	28	14	33.3
Northland Pioneer College	INA	INA	--
Phoenix College	91	69	43.1
Pima Community College	156	114	42.2
Rio Salado Community College	3	0	--
Scottsdale Community College	61	41	40.2
South Mountain Community College	9	13	59.1
Yavapai Community College	49	22	31.0

INA= Information not available.
NOTE: Data are for full-time instructional staff.
SOURCE: Arizona Commission for Postsecondary Education, Higher Education General Information Survey (HEGIS).

AVERAGE FACULTY SALARIES FOR ARIZONA PUBLIC COMMUNITY COLLEGES
1984-85

	MALE	FEMALE	RATIO*
Arizona Western College	$25,839	$23,320	90.2%
Central Arizona College	29,251	30,168	103.1%
Cochise College	24,568	23,412	95.3%
Eastern Arizona College	24,662	22,656	92.0%
Glendale Community College	36,215	34,116	94.2%
Maricopa Technical Community College	35,377	32,408	91.6%
Mesa Community College	36,075	33,450	92.7%
Mohave Community College	23,790	23,631	99.3%
Northland Pioneer College	INA	INA	--
Phoenix College	33,487	39,183	117.0%
Pima Community College	27,164	26,219	96.5%
Rio Salado Community College	INA	INA	--
Scottsdale Community College	33,891	32,966	97.3%
South Mountain Community College	25,189	25,449	101.0%
Yavapai Community College	29,827	26,895	90.2%

* Female salary as a percentage of male salary.
INA= Information not available.
NOTE: Data are for full-time instructional staff. Data to control for factors such as length of service were not available.
SOURCE: Arizona Commission for Postsecondary Education, Higher Education General Information Survey (HEGIS).

FACULTY AT ARIZONA PUBLIC UNIVERSITIES BY SEX AND RANK
1984-85

	PROFESSOR			ASSOCIATE PROFESSOR			ASSISTANT PROFESSOR			INSTRUCTOR		
	MALE	FEMALE	PERCENT FEMALE	MALE	FEMALE	PERCENT FEMALE	MALE	FEMALE	PERCENT FEMALE	MALE	FEMALE	PERCENT FEMALE
Arizona State University	433	50	10.3%	378	74	16.4%	189	98	34.1%	4	35	89.7%
Northern Arizona University	112	3	2.6	168	19	10.2	85	42	33.1	18	19	51.4
University of Arizona	614	28	4.4	278	56	16.8	134	64	32.3	10	12	54.5

NOTE: Data are for full-time instructional staff.
SOURCE: Arizona Commission for Postsecondary Education, Higher Education General Information Survey (HEGIS).

AVERAGE FACULTY SALARIES FOR ARIZONA PUBLIC UNIVERSITIES
1984-85
(in thousands)

	PROFESSOR			ASSOCIATE PROFESSOR			ASSISTANT PROFESSOR			INSTRUCTOR		
	MALE	FEMALE	RATIO*	MALE	FEMALE	RATIO*	MALE	FEMALE	RATIO*	MALE	FEMALE	RATIO*
Arizona State University	$43.6	$39.6	91%	$32.5	$30.4	93%	$27.0	$24.8	92%	$20.2	$20.3	101%
Northern Arizona University	$40.9	$39.5	97%	$31.4	$29.1	93%	$25.5	$25.2	99%	$20.9	$20.3	97%
University of Arizona	$45.3	$38.8	86%	$32.8	$31.0	95%	$27.6	$25.8	93%	$25.6	$20.4	80%

* Female Salary as a percentage of male salary.
NOTE: Data are for full-time instructional staff. Data to control for time-in-rank, productivity, and market factors were not available.
SOURCE: Arizona Commission for Postsecondary Education, Higher Education General Information Survey (HEGIS).

TUITION AND REQUIRED FEES AT ARIZONA'S PUBLIC UNIVERSITIES
1985-86

Resident Fees	$ 990
Average Resident Fees in 13 Western States (WICHE region)*	$ 1,012
Average Resident Fees at 50 Major State Universities	$ 1,488
Average Non-Resident Fees	$ 3,645
Average Non-Resident Fees in 13 Western States (WICHE region)*	$ 3,541
Average Non-Resident Fees at 50 Major State Universities	$ 3,993

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* Averages based on 1984-85 WICHE data.
SOURCE: Arizona Board of Regents.

NEW DEVELOPMENTS

"New Developments" is featured each month as a service to employers and job seekers. It is a compilation of public announcements of the more significant new construction, grand openings, major hirings and layoffs, and other employer events that have special significance for Arizona labor markets. The announcements are paraphrased and otherwise edited from articles published in newspapers and other periodicals from throughout the state. "New Developments" are limited to space available, and no attempt is made to compile an exhaustive list of all such events that have occurred during the month.

CONSTRUCTION: The Phoenix Planning Commission has approved the building of a high-rise project on the south bank of the Salt River as part of "Southbank," a project which has been proposed by DENRO Limited of Phoenix in partnership with a Minneapolis developer. The unanimous recommendation for approval of buildings up to 15 stories high came despite staff protests that the project would set a precedent for high-rises outside core areas designated for such intense development and that the project could interfere with plans to add a third runway to Sky Harbor Airport. If built according to plans, the project would put 4 million square feet of commercial and industrial space between the river and Interstate 10 from 32nd to 40th streets. The developers say they need the tall buildings to give the entire $500 million project a strong identity and to make it competitive. They propose three buildings of eight stories, three of ten stories, and two of 15 stories to be built on 62 acres of the entire 235-acre Southbank parcel.

Construction began on "Capital Centre," the first office building in Phoenix's Governmental Mall to offer space to private business. The $17 million project on 1.6 acres at the southeast corner of 15th Avenue and Washington will have 130,000 square feet of leasable space, including 14,000 square feet of executive suites. The four-story Capital Centre will be constructed with steel frame and contoured block with granite facing. The structure will also feature a two-story rotunda lobby with a 52-foot curved glass exterior.

EXPANSION: Defying the odds in a sagging high-tech industry, Fairchild Data Corporation announced plans to expand its Scottsdale facility by nearly 200 percent. An 80,000 square-foot addition to the present 46,000 square-foot facility will be used for manufacturing activities and offices. Lou Harper, Fairchild's president, said the expansion will allow the company to keep pace with sales and product projections. It will add up to 370 employees to its present workforce of 230.

LAYOFFS: Nortronics Company Incorporated of Tucson dismissed 63 local employees in September and will move the manufacturing of magnetic recording heads to its Maquiladora plant in Nogales, Sonora to cut costs. Plant manager, Earl Weibeler, said the closing is "an economic decision based on the downturn in the computer industry. Our level of business hasn't allowed us to keep this plant open." He said Nortronics has seen a substantial decrease in orders from two of its customers--one local and one in Colorado--but he declined to give specifics or identify the companies.

Motorola announced in mid-September that it will either dismiss or transfer 200 employees at its Mesa facility due to a drop in demand for semiconductors. This would bring the total number layed off so far this year in the Valley to 520 employees. However, company spokesman Ken Phillips, added that "It's certainly our intention to transfer as many as possible. These are trained workers." The Mesa plant, at Broadway and Dobson roads, employs about 4,000 people. Valleywide, Motorola has about 22,500 employees.

Gates Learjet Corporation also announced plans in mid-September for layoffs for 400 to 500 employees at its Tucson and Wichita, Kansas plants. The company has yet to determine the exact number of layoffs or how they will be split between Tucson and Wichita. A decline in sales of its business jets, coupled with an end of production of military jets in October, were cited as reasons for the layoffs.

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